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GARDNER MODERN METHOD

for the instruments of percussion

PART III
TIMPANI

CARL
E.
GARDNER

CARL FISCHER

O230

5.00

GARDNER MODERN METHOD

for

the instruments of percussion

BY

CARL E. GARDNER

PART I – O228
  Drums, Cymbals, Accessories
PART II – O229
  Bells, Xylophone, Vibraphone
  Marimba, Chimes
☆ PART III – O230
  Timpani
COMPLETE – O231

CARL FISCHER, INC.
62 COOPER SQUARE, NEW YORK 10003
BOSTON · CHICAGO · LOS ANGELES

Table of Contents

PART III

Foreword 3
Preface (from Volume I) 4
Timpani 5
Introduction 5
Description 6
Compass of Timpani 7
Position of Timpani and Performer 8
The Roll 9
Tuning 9
Sol-fa Ear Training 14
Notation 18
Technic 19
Twenty Technical Studies 22
Orchestra Studies 34
    For Two Timpani 34
    For Three Timpani 80
    For Four Timpani 86
    For Five Timpani 87
Pedal Timpani 90
    Exercises for Pedal Timpani 92
    Pedal Glissandos 95

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Foreword

The following pages constitute Part III of the complete method for drums, the accessory traps, bells, xylophone, marimba, vibraphone, chimes and timpani entitled—

The GARDNER MODERN METHOD for the INSTRUMENTS of PERCUSSION.

The method is divided into three parts, each of which may be obtained separately, and is also published in one complete volume.

Part I consists of a complete and exhaustive treatment of the snare drum, bass drum, cymbals, and the various accessories. Besides the Technical Rudiments and Progressive Studies which lead the student step by step through all practical difficulties, there will be found quotations of percussion parts from standard compositions. These have been selected to show the principal figures in actual application; they in themselves furnish a valuable schooling. In addition to the above there will be found subjects of interest and practical value such as: Theatrical Activities, Dance Forms and Popular Drumming, Army and Military Drumming, etc.

Part II consists of a thorough treatment of orchestra bells, xylophone, marimba, vibraphone and chimes. Here, as in Part I, the Technical Rudiments and Progressive Studies prepare the student for the quotations of orchestral compositions. Arrangements of standard overtures for solo work supplement the Orchestra Studies, which, together with such articles as *Memorization* and *Sight Reading*, offer a course of study that will be found interesting as well as of educational value.

Preface

(*FROM VOLUME I*)

The object of the following pages is to supply a system of study for the instruments of the percussion whereby the student may gain not only technical skill but a knowledge of the practical application of technic to professional activities. To this end, the plan of presentation herein given is fashioned by offering important orchestra studies as well as technical exercises.

The author realizes that the student in the smaller cities is frequently handicapped by a scarcity of good teachers, and when thrown upon his own resources needs an exhaustive treatise abounding in explanative text and complete in technical details. The needs of these students have been kept in mind throughout this system; they will find it as valuable for self instruction as is possible within a practical number of pages. On the other hand, teachers will find it no less valuable because of the self-instructive character of the system; no empirical principles have been set down, but only such principles as are sanctioned by good general adoption.

The manner of dividing the system into three parts was determined by the cumulative results of experienced teachers. Deviations from this order of presentation on the part of teachers or students are not advisable but additions to the orchestral studies and, in some cases, to the exercises are to be recommended. Percussion parts in orchestrations of marches, waltzes, selections, overtures, symphonies, etc., may be used. For additional exercises upon the hammer-played instruments, Arban's Cornet Method will be found valuable. This is obtainable in complete form for those who desire a large number of additional exercises or in abridged form for those who require less technical work.

Timpani[1]

KETTLEDRUMS (Eng.), TIMPANI (It.), TIMBALLI (It.), TABALLI (It.), TIMBALLES (Fr.), PAUKEN (Ger.), TIMBALS (Span.), ATABALES (Span.).

INTRODUCTION

Because of the fact that the timpani are studied almost exclusively by those who have already studied drums and bells, a thorough knowledge of rhythm, scales, intervals, and chord formations is presupposed in Part III. By presupposing such knowledge, more pages are at our disposal for an intensive study of the timpani.. Any points throughout the text which are not understood, may be traced in most cases to a lack of preparation in the subjects mentioned above, and should be cleared up by referring to Parts I and II as frequently as may be found necessary.

The student will notice that no exercises for three or more timpani are given in the Technical Studies. It is safe to say that ninety-nine per cent. of timpani students have but two timpani at their disposal, and by not including such exercises we again gain in the number of pages for the practical side of the study.

Before proceeding with the Technical Studies in this part, the student is advised to practice all the exercises for snare drum in Part I. This should be done upon a single kettledrum tuned to a certain pitch. By this practice, the student will become proficient in handling his timpani sticks, and therefore better prepared to concentrate upon the proper manner of changing from drum to drum which is necessary in the Technical Studies for timpani.

Additional exercises during this practice of Part I are to be found in Books I and II of the Progressive Studies for the Snare Drum. After completing the foregoing work and the Twenty Technical Studies in this volume, Books III and IV, Progressive Studies for the Snare Drum should be practiced upon a kettle drum.

While tonalities, modes, intervals, chords, and scale-step theory names are employed in this volume, the student of timpani should have a more complete knowledge of these subjects. Part II of this method supplies considerable text toward this end, but a more thorough knowledge may be obtained by studying the author's *Essentials of Music Theory* published by Carl Fischer, Inc.

I wish to express my gratitude for valuable suggestions and aid in preparing this 1944 revision to George Lawrence Stone of Boston and William F. Ludwig of Chicago.

I am indebted to John Bryant of Boston for posing for the illustrations in Plate 31).

---

[1] The Italian word *timpani* (sing. *timpano*) is more frequently used in this country than the English word ***kettledrums***, both in conversation and publications. Frequently we hear a colloquially Anglicized plural (timpanies) as well as an Anglicized singular (timpany).

DESCRIPTION

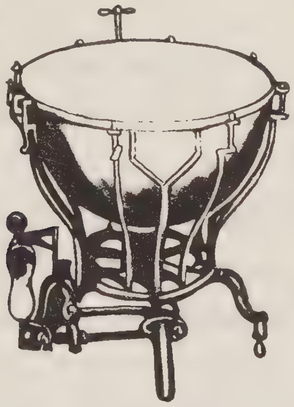
The kettles of the timpani are most commonly made of copper. Brass and aluminum are also used.

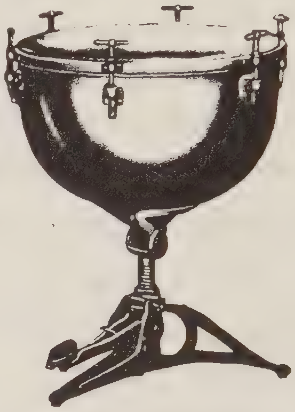
For the average orchestral duties, two timpani suffice, but in grand opera and symphony orchestras, three or four drums[1] are frequently necessary. Most compositions call for a pair of timpani and for this reason few performers own more than two drums.

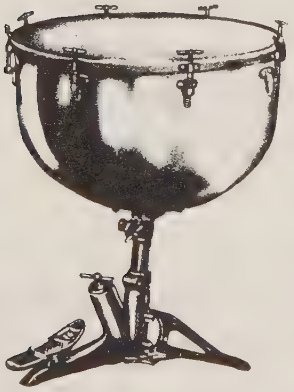
The "tenor" kettle measures 24 inches in diameter and the "bass" kettle 27 inches. When a third drum is purchased, a 30-inch[2] kettle is usually the choice.

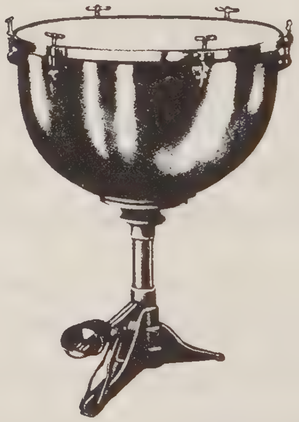
For ordinary purposes, each drum is equipped with a tuning device consisting of six independent handles by which the tension of the head is regulated, but accompanying such a tuning device is the danger of uneven head tension. Great care must therefore be exercised in making quick changes in pitch; in some compositions the designated changes are impracticable and in such places a few measures must be omitted.

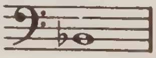
Various styles of "machine" drums have been invented to overcome the drawbacks of the ordinary timpani. Four styles of pedal timpani are shown in the following illustration, the first of which is of European make and the remaining three of different American makes.





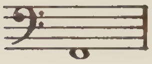
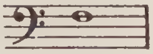
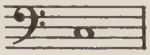




The tuning of pedal timpani is done by foot pedals and is practically instantaneous. By depressing the pedal the pitch is raised, while by raising the pedal the pitch is lowered. Devices to lock the pedal upon a given tone vary upon different makes of drums. Sometimes a dial with pointer is employed with graded markings showing the pitch of a given pedal position but such device, by the nature of things, indicates an approximate pitch only—the player's ear is the final judge. The tuning bolts or handles upon pedal drums serve two purposes; first, that of adjusting the pitch at the beginning of the concert to coincide with the atmospheric conditions; in damp weather the handles need to be tightened beyond the point at which they are set in dry weather that the pedals may be in the most convenient position. The second purpose of the handles is that of adjusting the evenness of the head. While unevenness of tension is less likely upon pedal drums than upon hand-tuning drums, there is, however, an occasional need for adjustment. By means of the handles, the smaller drum is set at B♭ 

[1] See pages 13 and 14.

[2] Some acousticians claim that a kettledrum should not exceed 29 inches in diameter; notwithstanding their deductions, low tones may be effectively produced upon a 30-inch drum properly constructed.

with the pedal at the proper point for this tone. The larger drum is similarly set at F  Some players prefer to set the drums upon the highest tone of the compass. In this case, the pedal is placed at its proper position (F  for the smaller and C  for the larger) and these tones are set with the handles.

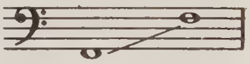
The majority of pupils practice upon hand-tuning timpani, for which reason the following illustrations, text, exercises and quotations are concerned with these. Pedal timpani may be employed, of course, upon all the work, and special consideration in the form of text and exercises is given, starting on page 90.

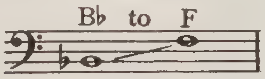
Calf skin is most commonly used for timpani heads, but Angora goat skin may be used. The skin should be as even as possible over its entire surface and carefully and evenly tucked.

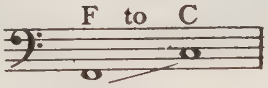
Four pairs of sticks are necessary for different effects: (1) one pair with medium hard felt heads, (2) one pair with soft (spongy)[1] felt heads, (3) one pair with wooden heads, and (4) one pair with cork heads, or wooden heads covered with flannel or thin felt. For light concert work, a single pair with medium hard felt heads is sufficient.

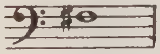
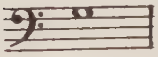
COMPASS OF TIMPANI[2]

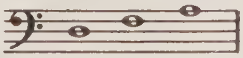
The timpani are notated in the bass clef. (See *Principles of Tonal Notation*, Part II).

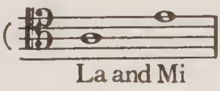
The regulation compass of the timpani is from F to F (). The tenor and bass overlap by one tone; the compass of each is as follows:

Tenor: 

Bass: 

Occasionally a composition calls for tuning beyond the above compass. It is not infrequent to find a high F♯ () designated for the tenor kettledrum. Under favorable atmospheric conditions, this is possible but somewhat of a strain upon the head. In such a case, most performers transpose the tone an octave lower to the bass kettledrum. Busoni's *Turandot* calls for a "*Piccolo Timpano* in G alto" (). For such a pitch a 20- or 22-inch drum should be used. In this same suite, a low E♭ is required. With the average bass kettle, this is impossible, and a 29- or 30-inch drum becomes necessary. The suite requires a set of four timpani and is most effective with the following sizes: 20-inch 24-inch, 27-inch, and 30-inch. (See footnote, page 6.)

K. Striegler in his *Symphony in A Minor* employs three small timpani, the highest of which is tuned to *A*. The tuning is as follows: ()

Delibes, in his opera, *Lakme*, employs "Petite Timballes" tuned as follows: () which is an octave higher than the pitch of regulation timpani.

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[1] In former times, timpani sticks were made with sponge heads, but our modern felt sticks have entirely replaced these. The term "*sponge sticks*" is still to be found in old editions and is occasionally used in modern editions. (See text, page 21.)

[2] The sizes of the regulation pair of timpani are herein given as 24 and 27 inches. Since many manufacturers do not make these sizes but rather 25 and 28 inches, the student may wonder why the former diameters are given. Which diameters are preferable is a moot question. With the smaller diameter, the higher tunings are less "stuffy" but the lower tunings are not so good as upon drums with the larger diameters. In other words, whichever choice is made, there is a sacrifice at one end or the other of the range. High F♯ (See Schubert's "Unfinished Symphony," page 58) with a 24-inch kettle is less stifled in tone than with a 25-inch kettle. On the other hand, the low B♭ upon the tenor drum is better with a 25-inch kettle than with a 24-inch.

POSITION OF TIMPANI AND PERFORMER

The performer should face the conductor. The timpani should be placed in front of the performer with the music rack in the center. When three or more drums are used, these should be arranged in a semi-circle. The most logical arrangement is that in which the smaller drum is at the performer's right; this arrangement is the same as the arrangement of all keyed instruments. Many performers (especially those of the German school) advocate the opposite arrangement, but as no advantage is gained by such an arrangement, the beginner is advised to adopt the preceding, which will seem more natural to one with any knowledge of a keyboard, bells, or xylophone.

The drums are often slanted toward the performer. The degree of slant depends upon the height of the drums; the playing spot should be at a height of about six inches above the seat when the performer is sitting, and about six inches below the waist line when the performer is standing. The average timpani stands are designed for performers in sitting position, and when these are used for a standing position, it is necessary to slant the drums toward the conductor. See Plate 31, page 21.

The sticks are held in the same manner in both hands by grasping between the first joints of the fingers and the thumb. The thumb should be straight, and the fingers slightly curled inward, while the muscles throughout the fingers and hands as well as those of the arms and wrists should be wholly relaxed. See Plate 30:

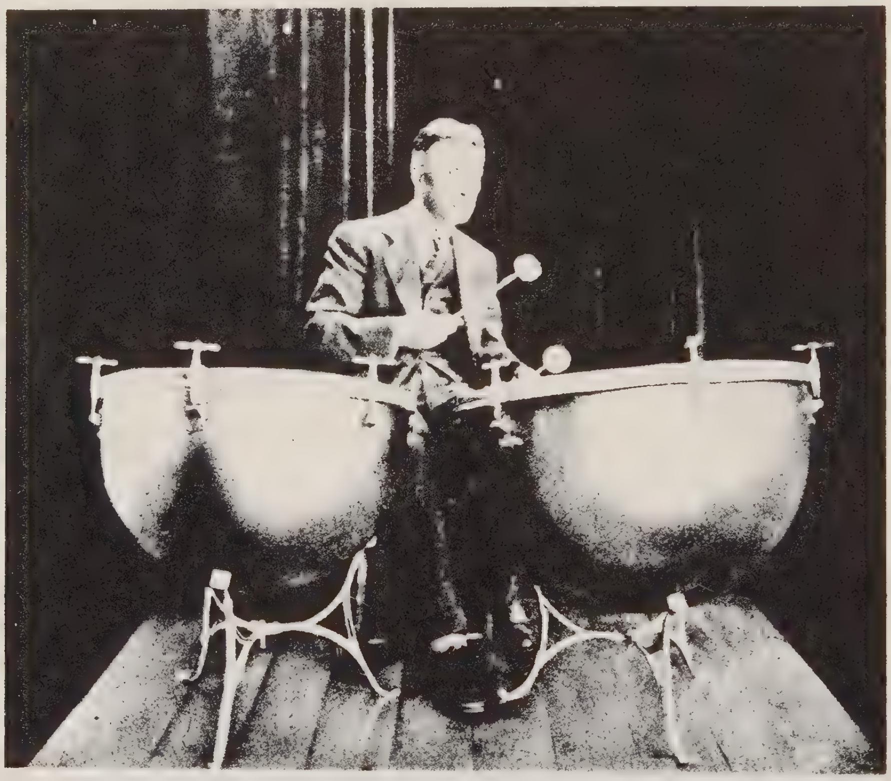


Plate 30

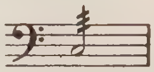
The tone is produced by a quick flexible stroke at a point situated about one third of the distance between the hoop and the center of the drum. The point varies on different drums and often upon the same drum at different tensions as well as at different degrees of power. The manner in which the tone is produced is similar to the manner in which a tone is produced upon the bells. To quote from Part II: "The manner of producing a tone should be conceived as a similar procedure to that of throwing a ball, *i.e.*, the head of the hammer (stick) is thrown at the bell (kettledrum) while control of the blow in quantity and quality is accomplished by muscular adjustment in hands, wrists and arms."

The heads of the sticks are raised higher in playing timpani than the hammers in bell playing. Extremely loud *legato* tones are often effective by striking a glancing blow. In making this stroke, the head of the stick prescribes an arc. On the other hand, *staccato* tones are best produced by a direct blow, and the resonance of the drum stopped by placing the palm of the hand firmly but noiselessly upon the drum head immediately after the tone is produced. Such a procedure is, of course, impossible in rapid execution, and in such places *staccato* marks are superfluous.

The resonance of the drums may be partially eliminated by muffling the drums with a cloth or handkerchief. As this gives the drums a different tone quality, it should not be resorted to except where the notation signifies it. This is signified by the appearance of the term "muffled" (*coperto*); the drums are unmuffled at the appearance of the term "open" (*scoperto*). Muffled timpani are effective in solemn music and are, in such places, used frequently by composers. The cloth is placed upon the head at the side opposite to that being played upon.

THE ROLL

Long sustentations upon the timpani are produced by means of the roll. This is produced by rapid reiteration of *single strokes*. The rapidity of the reiteration is determined (or, to be more correct, *sensed*) by the tension of the drum head. At a low tension (low tones) the alternation should not be as rapid as at a high tension (high tones). Heads vibrate at a slower rate upon the low tones, and therefore require slower reiteration of strokes for a roll than the higher tones; a too rapid reiteration "chokes" the drum and the tone is consequently not "round and full." See text upon duplicated pitch, pages 19 and 20.

Rolls are notated by the symbol of the trill (𝆖) or by the use of cross lines  such as are used for the snare drum. This latter method of indicating rolls, however, should be used only where a definite number of strokes is desired, and it is so used in original scores of art music. Unfortunately, some arrangers, influenced by the careless notation of rolls in snare drum parts, employ this method indiscriminately in timpani notation.

TUNING

The tuning of the timpani is more difficult than that of any orchestral instrument because of the lowness and indefiniteness of the pitch. The double bass, although lower in compass, offers fewer tuning difficulties than the kettledrum because of its more definite pitch as well as its attributes of *harmonics*. By the use of *harmonics* (*i.e.*, overtones produced by a light pressure of the finger upon the string), the string bass player may "prove up" the pitch of the open strings, as is also possible upon the cello and other string instruments. Similarly, upon low brass and woodwind instruments, the pitch may be tested in the higher registers. The ear perceives the moderately high tones more accurately than the low tones.

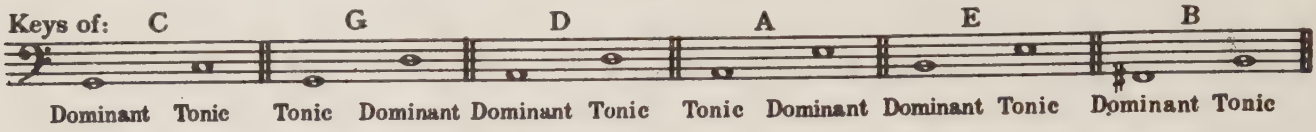
In spite of its comparative indefiniteness in pitch, the kettledrum must be accurately tuned or its faulty intonation will be readily perceived in the ensemble.

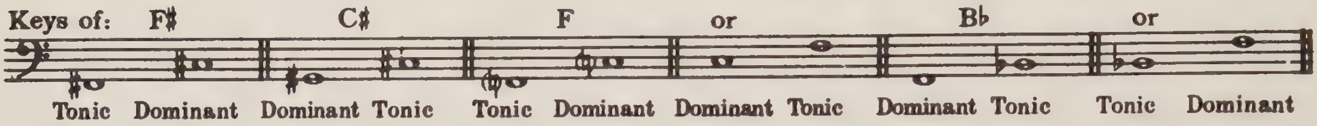
False intonation due to uneven head tension and an unevenly skived skin is an impeding feature characteristic of the tuning of the kettledrum, especially of one which is equipped with the ordinary tuning device.

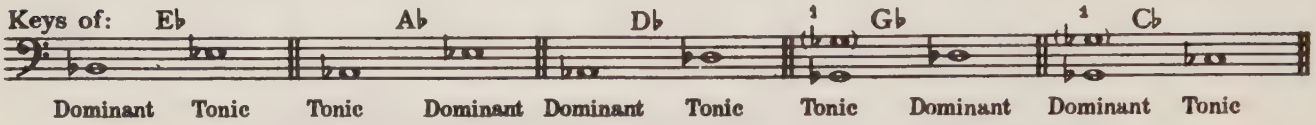
Other inherent difficulties in hand-tuning kettledrums are quick changes in pitch, and a change to a key foreign to that in which the orchestra is playing during the change.

Such difficulties can only be met by the most thorough training of the ear, the most effective training of which is accomplished by studying sol-fa-ing. For this purpose, a course in sol-fa-ing is outlined on the following pages.

The timpani are most usually tuned in the tonic (keytone) and ***dominant*** (fifth **scale step**). The manner in which these tones are allotted to two drums is shown below. In each example, the large drum is designated first.





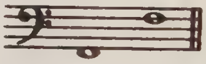


Notice that the enharmonic keys (B-C♭, F♯-G♭, and C♯-D♭) are tuned the same where the scale of equal temperament is employed. (See *Principles of Tonal Notation*, Part II.)

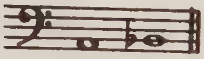
While the above tuning is customary, examples of other tunings are by no means infrequent. For example:

(Two Drums)

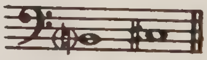
Octave (tonic), Beethoven: *Eighth Symphony* (4th movement):



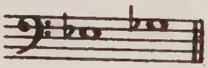
Minor Second, Thomas: *Raymond Overture:*



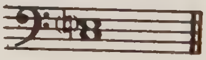
Major Second, Moszkowsky: *Spanish Dances*, No. 3:



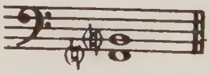
Minor Third, Busoni: *Turandot Suite:*



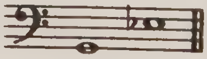
Major Third, Strauss: *Eulenspiegel:*



Augmented Fourth, Wagner: *Good Friday Spell* from *Parsifal:*



Minor Sixth, Wagner: *Album Sonata:*



etc., etc.

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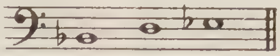
[1] See Compass of the Timpani, page 7.

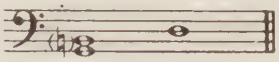
When three drums are employed, the logical choice of tones would seem to point to *tonic*, *dominant*, and *subdominant*. Such a choice, however, is frequently not made, for example:

(Three Drums. One Performer.)

Meyerbeer: *Coronation March:* E♭, D, and B♭

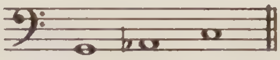


Sibelius: *Symphony No. 1:* G, B, and D

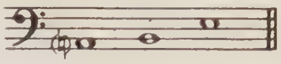


Stock: *Symphony No. 1* (Finale)

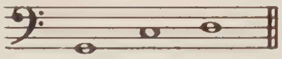
C, G, and A♭



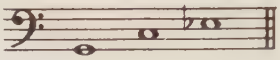
E, B, and A



G, C, and D



G, C, and E♭

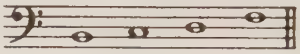


etc., etc.

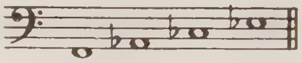
(Four Drums. One Performer.)

Stock: *Symphony No. 1* (Finale)

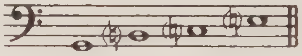
B, C, D, and f



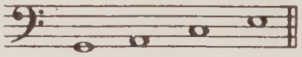
F, A♭, C♭ (B♮), and E♭



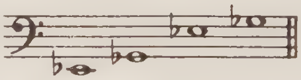
G, B, C, and E

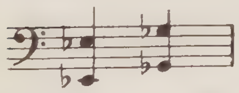
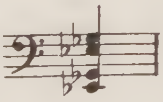


G, A, C, and E



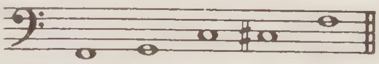
Busoni: *Turandot Suite* (1st movement) E♭, G♭, and octaves:



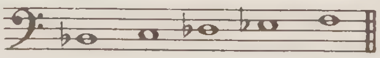
The above four tones occur in this suite sometimes separately and sometimes in octaves (). In one place all four tones are employed simultaneously for four measures (); the execution of this obviously requires two performers.

(Five Drums. One Performer.)

Strauss: *Eulenspiegel* F, G, C, C♯, and f



Strauss: *Elektra* B♭, C, D♭, E♭, and f



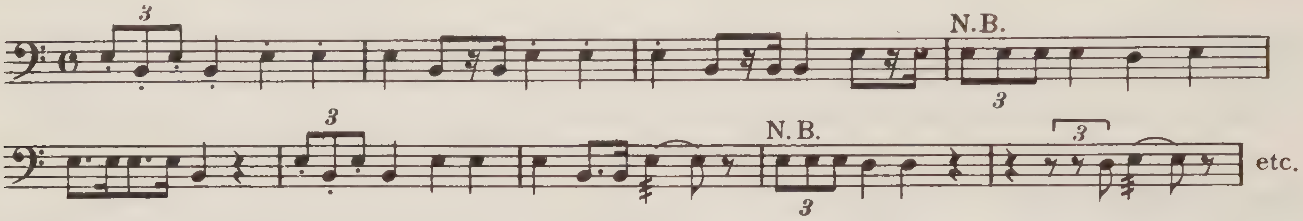
Examples requiring more than one performer and containing three or more tones are numerous in serious concert and operatic music. For example, Wagner's *Die Walkure* is written for two performers.

Walkurenritt from the above opera (see *Orchestra Studies*, page 88), calls for two performers in the score but it is usually edited for one performer. Not many such compositions, however, can be thus edited and retain intact the demands of the score. Where, however, such compositions must be published for small orchestras in editions to be played by a single performer, it is necessary to arrange new parts from the original scores.

Apropos of arrangements, a comparison of the following editions of Meyerbeer's *Coronation March* will be of interest.

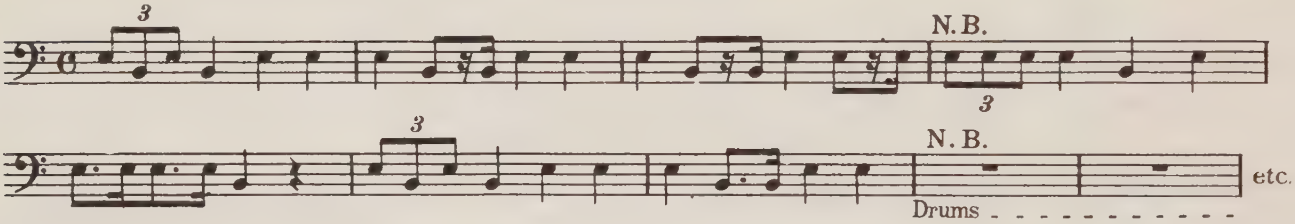
Original (Carl Fischer Edition, T 28) (See Orchestra Studies, page 82):

Timpani in E♭, D and B♭.



Dumont's Arrangement (Carl Fischer Edition, T 1635):

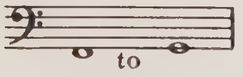
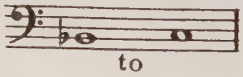
Timpani in E♭ and B♭.



An arrangement such as the second quotation above is prompted by the fact that but two timpani are available in the majority of cases.

Hand-tuning timpani are tuned by turning the handles in pairs. Opposing handles should be turned simultaneously—seldom adjoining handles. Most performers resort to the nearest adjoining handles for quick changes, but in case of the experienced performer this expedient is against his better judgment. The simultaneous turning of adjoining handles will, in time, unevenly stretch the head and cause it to ring false.

Equal tension should be given the head at each screw; this is determined by testing the pitch at each handle. A great amount of experience in tuning is necessary before one can become at all efficient. The amount of turning necessary to change the pitch within prescribed limits cannot be given; it is almost safe to state that the amount of turning is never twice the same for a given interval. The experienced performer *senses* the amount to turn for any given interval, and if asked off-hand the amount of turning necessary to make a given change, his answer would often be inaccurate. Efficient technic depends largely upon unguided but accurate automatic responses to mental stimuli; similarly, tuning must become, in a large degree, automatic to be efficient.

The amount of turning necessary for a given interval varies in the different registers; in other words, a greater amount of turning is necessary to change the pitch a major second in the lower register,  than is necessary in the upper register  The elasticity of different heads varies as does also the number of threads to the inch on different drums. The atmospheric conditions are additional varying factors which add to the impossibility of estimating the amount of turning necessary to accomplish a given change.

In changing the pitch from one tone to a higher tone, the handles are turned to the right (tightened). In changing the pitch from one tone to a lower tone, the handles are turned to the left (loosened). In making this latter change, it is also necessary to press upon the center of the head with the palm of the hand; if the head is not pressed, it usually pounds flat owing to its tendency to bind by friction and consequently not loosen to an extent coincident with the tuning apparatus. The student will see from the foregoing that changes to higher tones may be more quickly made than changes to lower tones. Changes to lower tones upon the machine drums are accomplished by releasing the pedals to their full extent, thereby approaching the desired tone from below.

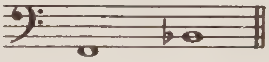
The pitch is tested by pressing upon the head with the fleshy part of the middle finger and gently snapping the finger off the head. During the playing of the orchestra, the testing should be made as quietly as possible, and to this end, the performer should lean with his ear close to the head. The pitch may also be tested with the sticks. Whenever possible, the head should be tested around its entire circumference to ensure a true tone. During the course of a composition, the tympanist often finds it necessary to adjust the pitch. Barometric conditions are responsible for such alterations in pitch as may occur after the drums are set.

The student should practice tuning each drum as follows:

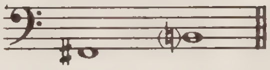
1. Tune the small drum to B♭; from here tune chromatically through the compass to f. (The pitch may be tested in each case by using the glockenspiel.)
2. Return to B♭ chromatically.
3. Tune to C; to D; to E; to F.
4. Tune to E♭; to D♭; to B♮; to B♭.
5. Tune to D♭; to E♮; to F.
6. Tune to D; to B; to B♭.
7. Tune to D; to F.
8. Tune to D♭; to B♭.
9. Tune to E♭; return to B♭.
10. Tune to F; return to B♭.
11. Proceed in a similar manner upon the large drum to that outlined in the above ten assignments. Here, the procedure is between F and C.

After considerable proficiency has been gained in the above tuning, the student should practice tuning both drums as follows:

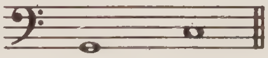
1. Tune to F and B♭ (perfect 4th)



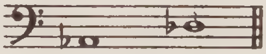
2. Tune to F♯ and B♮ (perfect 4th)



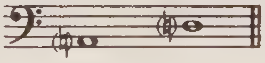
3. Tune to G and C (perfect 4th)



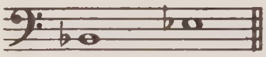
4. Tune to A♭ and D♭ (perfect 4th)



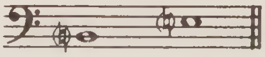
5. Tune to A♮ and D♮ (perfect 4th)



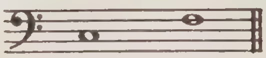
6. Tune to B♭ and E♭ (perfect 4th)



7. Tune to B♮ and E♮ (perfect 4th)



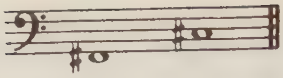
8. Tune to C and F (perfect 4th)



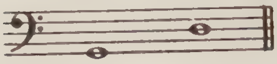
A return to the starting point (F and B♭) should now be made chromatically; the student may be guided in this by reversing the order in the above seven assignments.

9. Tune small drum to C (large drum in F).

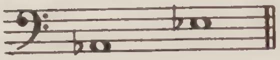
10. Tune to F♯ and C♯ (perfect 5th)



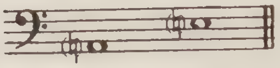
11. Tune to G and D (perfect 5th)



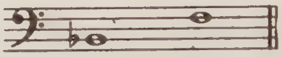
12. Tune to A♭ and E♭ (perfect 5th)



13. Tune to A♮ and E♮ (perfect 5th)



14. Tune to B♭ and F (perfect 5th)



A return to the starting point (F and C) should now be made chromatically—reverse the order of the above five assignments.

The order of assignments as given above should now be varied in different ways. For example: proceed with the changes according to the following order: 1, 3, 5, 7, 6, 4, 2, 8, 10, 12, 13, 11, 9.

Various tunings should now be made in minor seconds, major seconds, minor thirds, major thirds, augmented fourths (and diminished fifths), augmented fifths (and minor sixths), major sixths, minor sevenths (and augmented sixths), major sevenths, and the octave.

SOL-FA EAR TRAINING[1]

In practicing ear training, only a few minutes at a sitting are advised. Too much time at once devoted to this practice tires the ear and does more harm than good. On the other hand, these sittings should be many each day. Students who do not have a teacher daily, should have a member of the household play the exercises in ear training and correct the mistakes. If no member of the household is musical the student should cooperate with another student.

Each exercise should be thoroughly learned before proceeding to the following exercise. It may be recognizable and properly intonated at once or it may take several sittings. The pitch A at 440 is the standard for orchestral tuning and is recommended to the student for a fundamental. The student should carry upon his person a tuning fork of this pitch and sound it as often as an opportunity permits, thereby fixing this fundamental thoroughly in his mid. Eventually, the student will recognize this pitch whenever he hears it. Other tones will be recognizable by comparison with this fundamental. Any other pitch for a fundamental may be chosen with equally good results. The argument is in favor of A because of its use in orchestral tuning.

The following exercises should be sung by the student using sol-fa syllables (phonetic spelling) which follow:

	1	2	3	4	5	6	7	8
Major diatonic scale:	*doh,*	*ray,*	*me,*	*fah,*	*soh,*	*lah,*	*te,*	*doh.*

Chromatic Scale: ascending: *doh, de, ray, re, me, fah, le, soh, se,* [2] *la, le, te, doh.*
Chromatic Scale: descending: *doh, te, ta, lah, la, soh, sa, fah, me, ma, ray, rä, doh.*

Most systems in sol-fa-ing favor the retention of *doh* upon the major tonic in applying the syllables to the relative minor. In such a system, the tonic in the minor mode is always *lah* (instead of *doh*). The syllabications of the minor forms, under this system, are as follows:

	1	2	3	4	5	6	7	8
Harmonic Minor Scale:	*lah,*	*te,*	*doh,*	*ray,*	*me,*	*fah,*	*se,*	*lah.*
	1	2	3	4	5	6	7	8
Ascending Melodic Form:	*lah,*	*te,*	*doh,*	*ray,*	*me,*	*fe,*	*se,*	*lah.*
	8	7	6	5	4	3	2	1
Descending Melodic Form:	*lah,*	*soh,*	*fah,*	*me,*	*ray,*	*doh,*	*te,*	*lah.*

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[1] Abridged from Gardner's *Essentials of Music Theory*, Chapter 5.

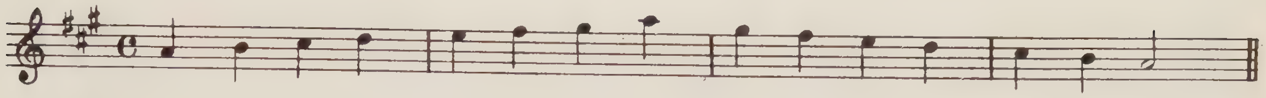
[2] The *sol-fa* syllable *se* stands for the raised fifth scale step, while the Italian syllable *si* (see page 18), stands for the tone *B*. Notice that the Italian syllables for the scale steps are similar to the sol-fa syllables, but the former is a fixed system (*i.e., do* is C), whereas the latter is a movable system (*i.e., doh* is the key tone and changes with the key.)

(N.B. To be sung at a pitch suitable to the natural range of the voice.)

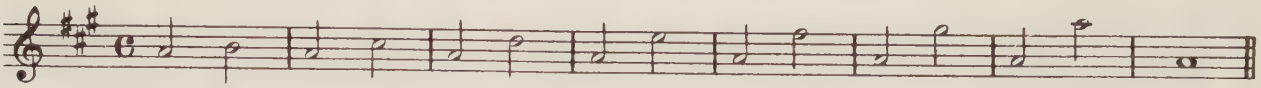
Group I.

The Normal Intervals of the Major Scale.

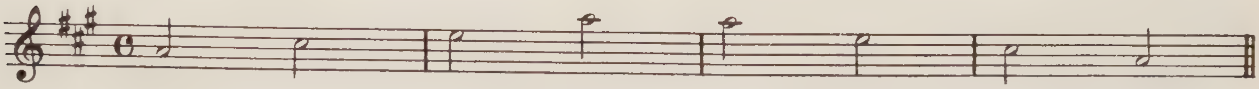
1. Major scale:



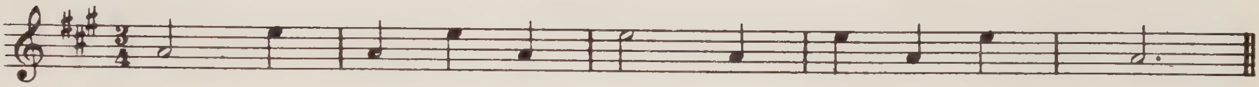
2. All intervals of major scale:—



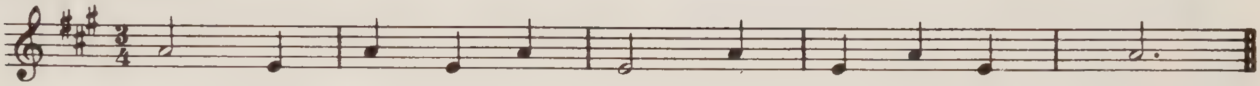
3. Tonic triad:—



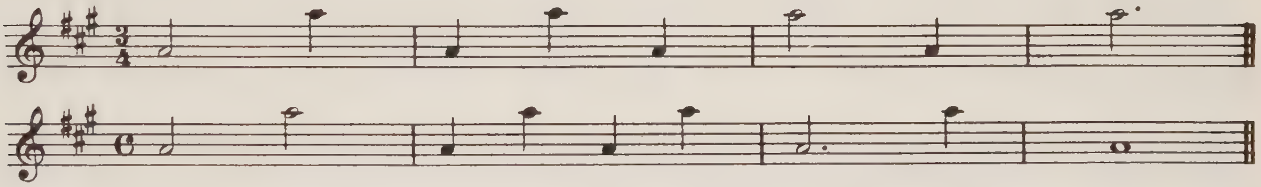
4. Perfect fifth:—



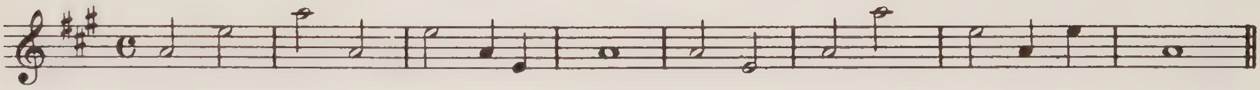
5. Perfect fourth:—



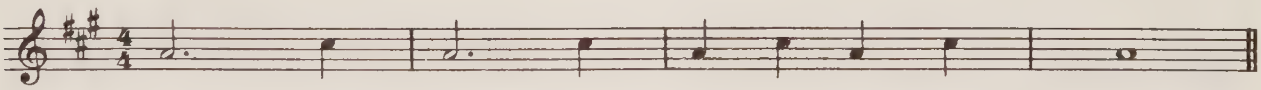
6. Perfect octave:—



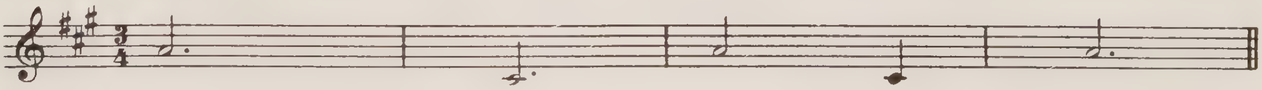
7. Perfect intervals combined:—



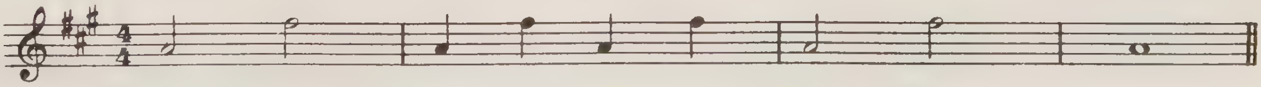
8. Major third:—



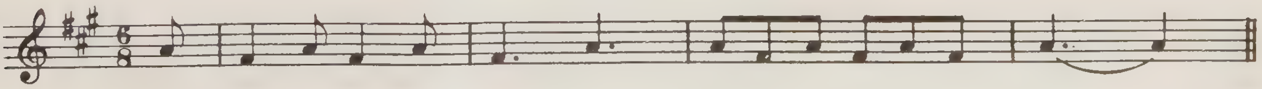
9. Minor sixth:—



10. Major sixth:



11 Minor third:—



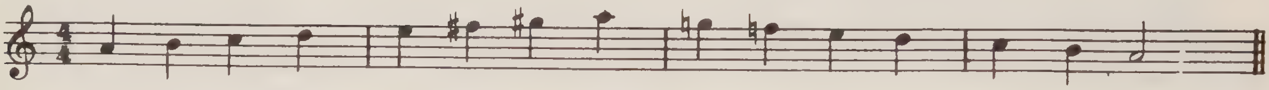
The above intervals should be combined in various ways and in several different rhythms. An assistant may choose and play several melodies free from accidentals while the student notates these "by ear."

The first measure of Exercise 2 contains the major second which is an easily recognized interval. The last measure but two of Exercise 2 contains the major seventh. This interval is ordinarily a difficult interval to intonate, but coming, as it does in Exercise 2, it is easy to intonate because of the ascending scale on the second half of the measures. For the present, it is not advisable to practice the major seventh except in some such sequence as Exercise 2. All other normal intervals may be practiced separately and in combinations. After the student has become thoroughly proficient in recognizing and properly intonating all the intervals in Group I, he may proceed to the intervals of the minor scale found in Group II

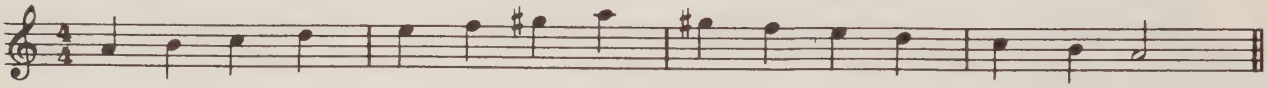
Group II.

The Normal Intervals of the Minor Scale

1. Melodic minor scale:

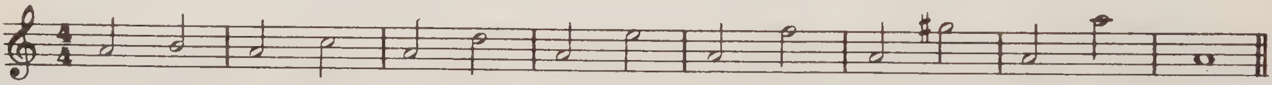


2. Harmonic minor scale:

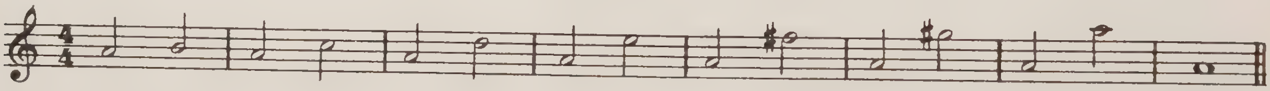


If the student finds difficulty in singing the harmonic form with the awkward augmented step, the singing of this scale may be postponed.

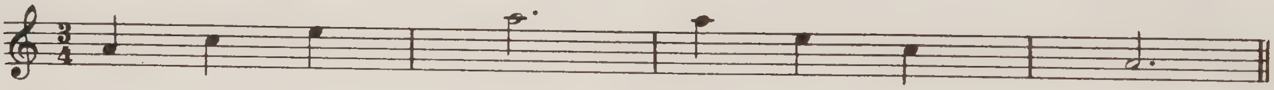
3. All intervals of the harmonic minor scale:



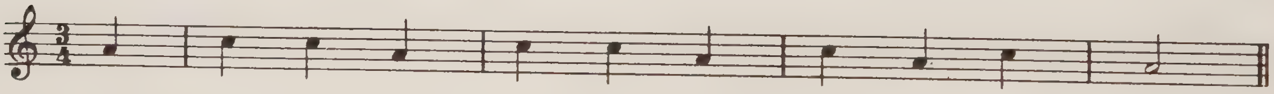
4. All intervals of the ascending melodic minor scale:



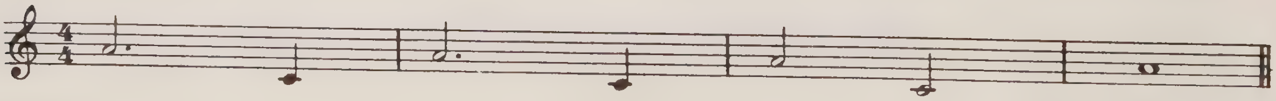
5. The minor triad:



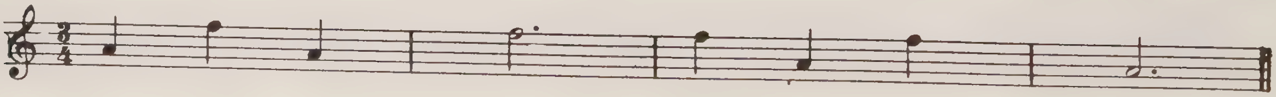
6. The minor third:



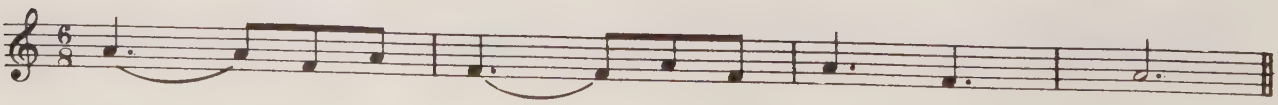
7. The major sixth:



8. The minor sixth:



9. The major third:

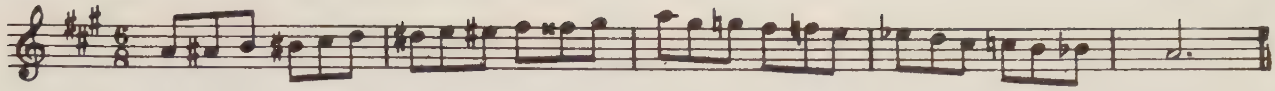


The student may experience considerable difficulty with the following group, in which case it is advisable to postpone this group until the ear is more thoroughly trained. The object of its following the normal intervals is to fix firmly the fundamental and all its intervals by comparison with this fundamental.

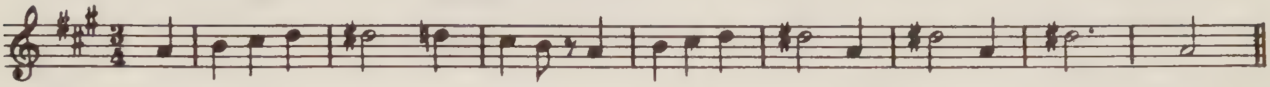
Group III.

Altered Intervals

1. The chromatic scale:

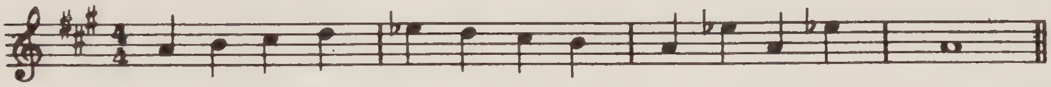


2. *The augmented fourth* is found as a scale interval between the fourth and seventh steps of the major scale (*fah* to *te*). It is more difficult to conceive and intonate properly the augmented fourth when it is constructed upon the tonic. In order to make this interval less difficult, the following exercise contains the intermediate scale steps previous to the skip of an augmented fourth:

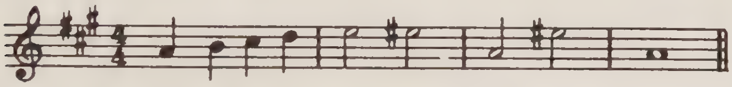


It may be necessary with some students to interpolate some or all the intermediate steps previous to skips to all altered intervals. It may not be amiss to state here that in correct melody writing augmented and diminished intervals are usually avoided. Singers almost invariably intonate them out of tune. When these intervals exist as constituent parts of an arpeggio chord progression, they are comparatively easy. As altered intervals these skips are given to instruments (instruments being capable of properly intonating all skips) when a dramatic effect is desired.

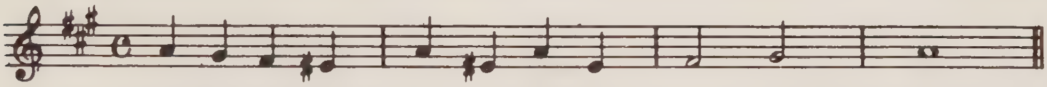
3. *The diminished fifth* is analogous to the augmented fourth. Being the inversion of the augmented fourth, it is found as a scale interval between the seventh and fourth steps (*te* to *fah*). The following exercise contains the diminished fifth built upon the tonic:



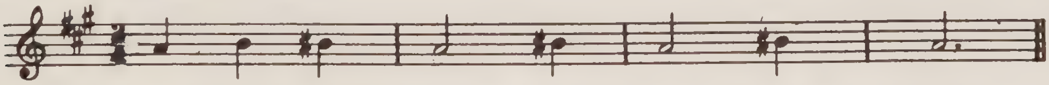
4. *The augmented fifth* is analogous to the minor sixth. It is found as a scale interval between the third and seventh steps of the harmonic minor scale and ascending melodic minor scale. The following exercise contains the augmented fifth built upon the major tonic:



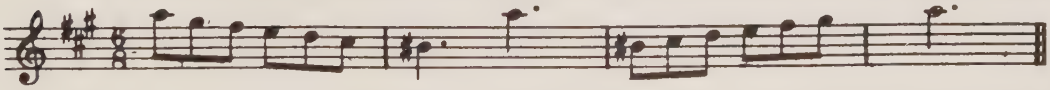
5. *The diminished fourth* is the inversion of the augmented fifth and is analogous to the major third:



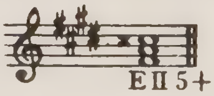
6. *The augmented second* is analogous to the minor third. It is found as a scale interval between the sixth and seventh steps of the harmonic minor. The following exercise contains the augmented second built upon the major tonic:

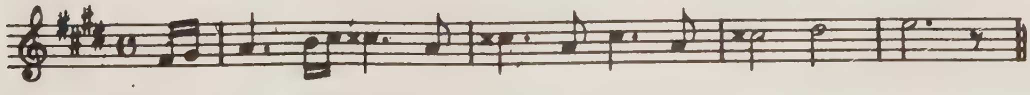


7. *The diminished seventh* is the inversion of the augmented second and is analogous to the major sixth:



8. *The augmented third* is analogous to the perfect fourth. This interval is found in the altered minor triad between the third and the raised fifth of the triad. Derivation of the augmented third:



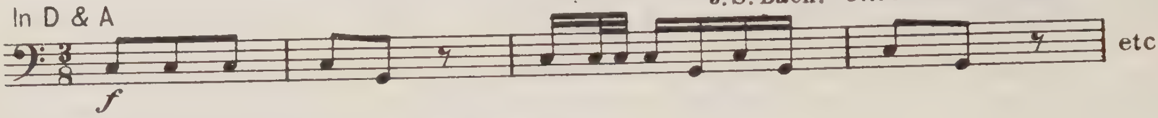


For additional practice in sol-fa-ing the student may choose melodies from any source. The exercises for the orchestra bells given in Part II may also be used.

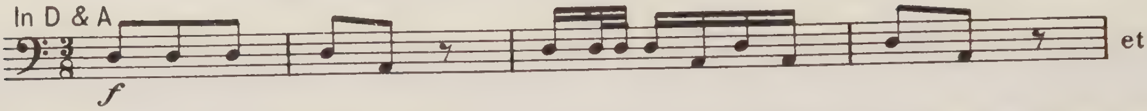
NOTATION

Timpani were invariably tuned in tonic and dominant in the old compositions and it was customary to notate the part in C and G regardless of the key, the key being designated by the necessary letters. For example:

J. S. Bach: *Christmas Oratorio*

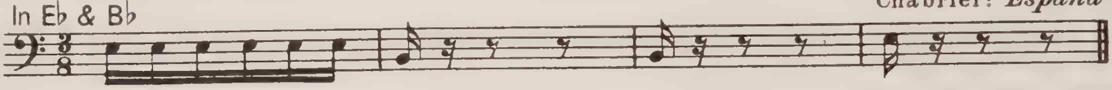


To-day the above would be notated as follows:

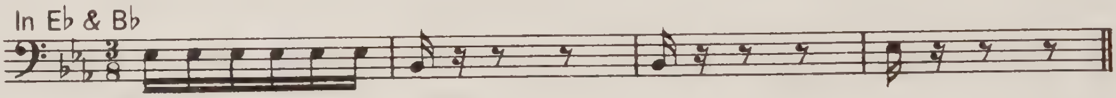


As the timpani became more popular with composers, tones other than the tonic and dominant came into use and the notation in the key of C became impracticable. It is now the custom to notate the part upon the staff degrees which coincide with the tones required. Unfortunately, timpani notation has not as yet evolved to the point of notating the key signature, and the custom of using letters still survives. For example:

Chabrier: *España*



While the use of letters should survive, it would be an appreciable improvement to include the key signature. The above extract would then appear as follows:



Occasionally we find the key signature included in the notation of the timpani part in modern compositions and frequently we find the necessary *accidental* symbol, for an example of which see Moszkowski's Dance No. 3, page 35.

The manner of designating the pitch of the tones in letters and syllables in four languages is shown below:

English	Italian	French	German
C	Do	Ut	C
C♯	Do diésis	Ut diése	Cis
D♭	Re bemólle	Re bémol	Des
D(♮)	Re	Re	D
E♭	Mi bemólle	Mi bémol	Es
E(♮)	Mi	Mi	E
F	Fa	Fa	F
F♯	Fa diésis	Fa diése	Fis
G♭	Sol bemólle	Sol bémol	Ges
G(♮)	Sol	Sol	G
A♭	La bemólle	La bémol	As
A(♮)	La	La	A
B♭	Si bemólle	Si bémol	B*
B(♮)	Si	Si	H*
C♭	Do bemólle	Ut bémol	Ces

---

*Notice that the German *B* signifies *B-flat* and that the German *H* signifies *B-natural*. This is obviously an important point for the timpanist to remember. Notice further that the German nomenclature is similar to the English; the German nomenclature adds *is* to letters signifying *sharps*, and *es*, or simply *s*, to letters signifying *flats*. The Italian and French syllables are not unlike our sol-fa system; in fact the sol-fa system is based upon the Italian syllables, but is, of course, a movable system, whereas the Italian system is a fixed system. The symbols of the sharp and flat are also used in the Italian and French nomenclature; examples: Do♯, Ut♯, Si♭, etc.

The student who has studied snare drum and bells experiences little difficulty in gaining timpani technic; similar muscles are brought into play in a similar manner. Notwithstanding these facts, the technic upon each of the above instruments should be differentiated one from the other. The tone is produced upon the timpani with a stick rebound accompanied by even greater celerity than the stick rebound upon the other instruments of percussion; a "crushed" beat should never be used upon the timpani. To express the method of tone production upon the timpani in homely metaphor—conceive of the kettledrum as a red-hot iron and the stick as a combustible object.

The student should practice tone and production with each stick separately. Starting with the right, play a dozen or more strokes slowly; follow these in a similar manner with the left stick striving to equal in quality the tones of the right stick. Practice in this manner at different degrees of power—sometimes *piano* and sometimes *forte.*

The tone should be produced by wrist action. Force should be exercised while the stick is in the air—never continue muscular force to the moment of impact of stick with head. See text upon technic included in the article *Position of Timpani and Performer*, page 8.

After some ability in tone production in each hand has been gained, the student should practice alternating the sticks. These strokes should be commenced slowly (not over 60 strokes per minute) and kept steady for several minutes; repeat the above assignment several times, resting a moment between each repetition. In this as in all technical work, continuity of tone quality and complete flexibility of the playing muscles are of utmost importance.

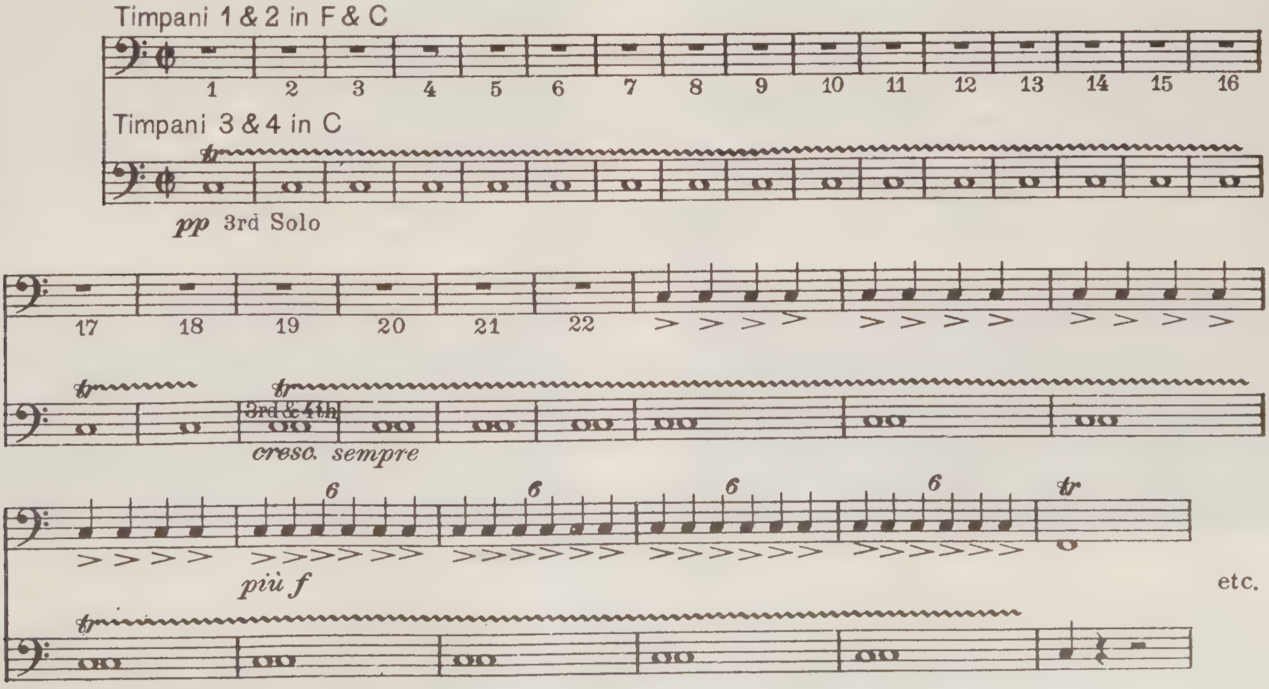
The above assignment is to be followed by a gradual quickening of the strokes. This *accelerando* should be continued to the limit of muscular flexibility and tone continuity. When the technical ability permits, the *accelerando* should be continued until the reiteration is sufficiently rapid to produce a roll. (See *The Roll*, page 9.)

All of the above assignments should be practiced first upon the low tones of the timpani (F upon the large drum and B♭ upon the small drum). Later the drums should be pitched higher, proceeding chromatically until proficiency in the roll is finally gained upon the highest tones (Large drum in C and small drum in F. (See *The Roll*, page 9.)

All rolls upon the timpani should be produced with single strokes. Some timpanists resort to the double stroke roll (snare drum roll) upon occasions wherein the demands of the part are extremely fatiguing. Care is taken, however, in such cases to use the double stroke roll only upon *pianissimo* passages.

Another method of practicing the single strokes is that of tuning the two drums to the same pitch and playing the large drum with the left stick and the small drum with the right. This may be practiced upon B♭, B♮ and C.

Wagner in his *Holy Supper of the Apostles* (*Das Liebesmahl der Apostel*) employs four timpani, three of which are tuned in C. An extract follows:

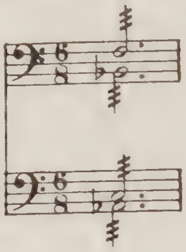


Two players are necessary, one for the upper staff and one for the lower. The first eighteen measures quoted above are played upon one drum; at the nineteenth measure the roll is played upon two drums by alternating the sticks upon the two drums; at the twenty-third measure the other timpanist enters and plays the rhythmic figure shown in the upper staff.

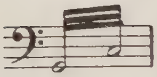
A roll played by alternating the sticks upon two drums tuned to the same pitch is most effective where the two drums are of the same size and of the same tone quality. With well trained stick control, however, this may be produced satisfactorily upon two drums of different sizes.

When three drums are available and the pitch changes are not too frequent in the part, the low tones may be duplicated and rapid notes and rolls played upon these two drums. This duplicating of pitch is especially effective in *fortissimo* passages as it allows greater resonance by eliminating the "choking" of the drum which occurs when the reiteration of strokes is too rapid upon the head.

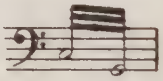
Rolls sometimes occur upon two drums tuned to different tones. Berlioz in his *Symphonie Fantastique* employs two players and a roll upon four drums as follows:



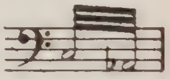
Sibelius in his *First Symphony* introduces a roll upon two drums for a single performer as follows:



Stock in his *First Symphony* introduces two drums similarly:

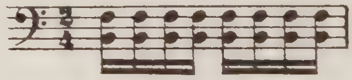


and

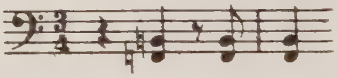


Simultaneous striking of the two drums in "double notes" should be practiced with the drums tuned in consonants (*i. e.*, octave, perfect fifths, major and minor thirds, and major and minor sixths). Great care must be taken that both sticks strike exactly together. These should be practiced at various speeds and finally at the quickest possible speed with relaxed muscles.

Puccini in his *Madame Butterfly* uses double notes in rapid succession as follows:

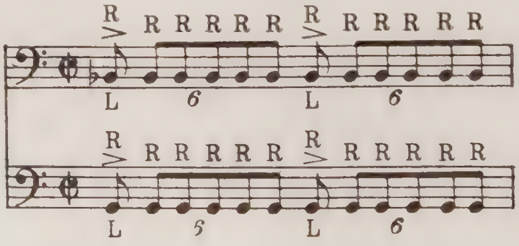


Wagner in his *Good Friday Spell* introduces the dissonant augmented fourth in double notes as follows:

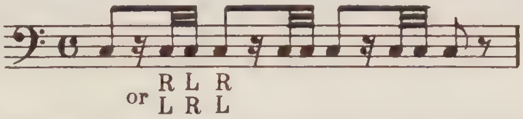


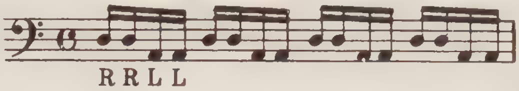
Both sticks should not be used simultaneously upon a single drum. The *acciaccatura*, however, frequently occurs for timpani (see text upon the snare drum flams, Part I).

Berlioz in his *Symphonie Fantastique* (fourth movement) employs two players and four timpani. He duplicates a B♭ for one player and a G for the other as follows:



Directions in the score call for the playing of the first note in each sextuplet with both sticks upon a single drum, but this invariably chokes the drum. When timpani for duplication are not available, simultaneous strokes as called for above should not be used, but instead the duplicated note should be marked by a *forzando* with a single stroke. The "sticking" as shown above is in accordance with the score.

While the great bulk of the technic upon the timpani consists of stick alternation, this is by no means an irrevocable rule. Where a slow or moderate succession of tones is made up of notes of equal importance, one stick is frequently used to the exclusion of the other, greater continuity thereby being assured. To generalize: a succession of slow or moderate notes of equal value is played with a single stick (either right or left), while a succession of rapid notes of equal value is played "from hand to hand." This generalization is not a rule, however; the manner of executing such figures depend upon the nature of the passage, and the performer must exercise his judgment. Stick alternation on rapid notes, however, should be a rule wherever such a method of execution is possible. The following measure from Wagner's *Götterdämmerung* 

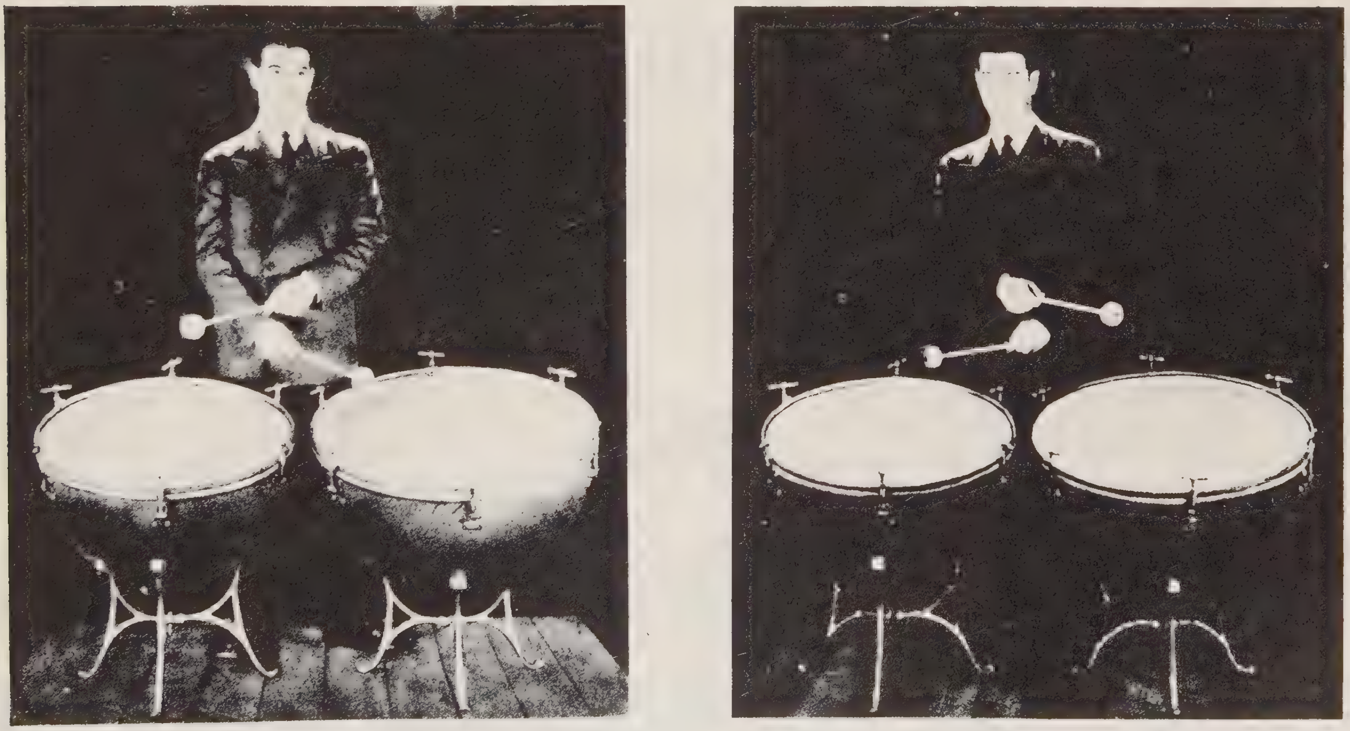
is played in rhythmic unison with the trumpet; it should be played upon the timpani "from hand to hand." The figure in the following measure from Beethoven's *Prometheus* 

"lies awkward" for stick alternation and is usually played as designated. This figure is best played upon three drums, duplicating the lower tone upon the two large drums and placing the small drum between the large drums. In this way, hand alternation becomes comparatively easy. A remarkable example of stick alternation is shown in Saint-Saens' *Danse Bacchanale*, page 51. See also Delibes' *Lakme*, page 52.

Cross beats are frequently used. These require considerable practice and are extremely important for sight reading. With good cross-beat technic, a performer need concern himself but little when confronted with a difficult part to read "at sight."

Cross beats are executed as follows: *The crossing stick always passes over the stationary stick.* See Plate 31, *a* and *b*.

Plate 31.



Left Stick Crossing Right

Right Stick Crossing Left

See Technical Studies, numbers 15 and 16, pages 30 and 31.

For general playing, sticks with felt heads are used. The performer uses his judgment in choosing between the hard and soft felt sticks; for continuous and unvarying *pianissimo* passages, soft sticks should be chosen. For all other passages, medium felt sticks are used. Wood and cork sticks are used only when called for in the part. This is designated in French by the term *Baguettes de bois* (sticks of wood); the return to felt sticks is designated by the term *Baguettes d'eponge* (sticks of sponge). The designations in Italian are *Bacchetti di legno* and *Bacchetti di spugna*. The above designations in German are *Holzschlagel* (wood sticks) and *Schwammschlagel* (sponge sticks); the German terms *Filzschlagel* (felt sticks) and *Korkschlagel* (cork sticks) are also used.

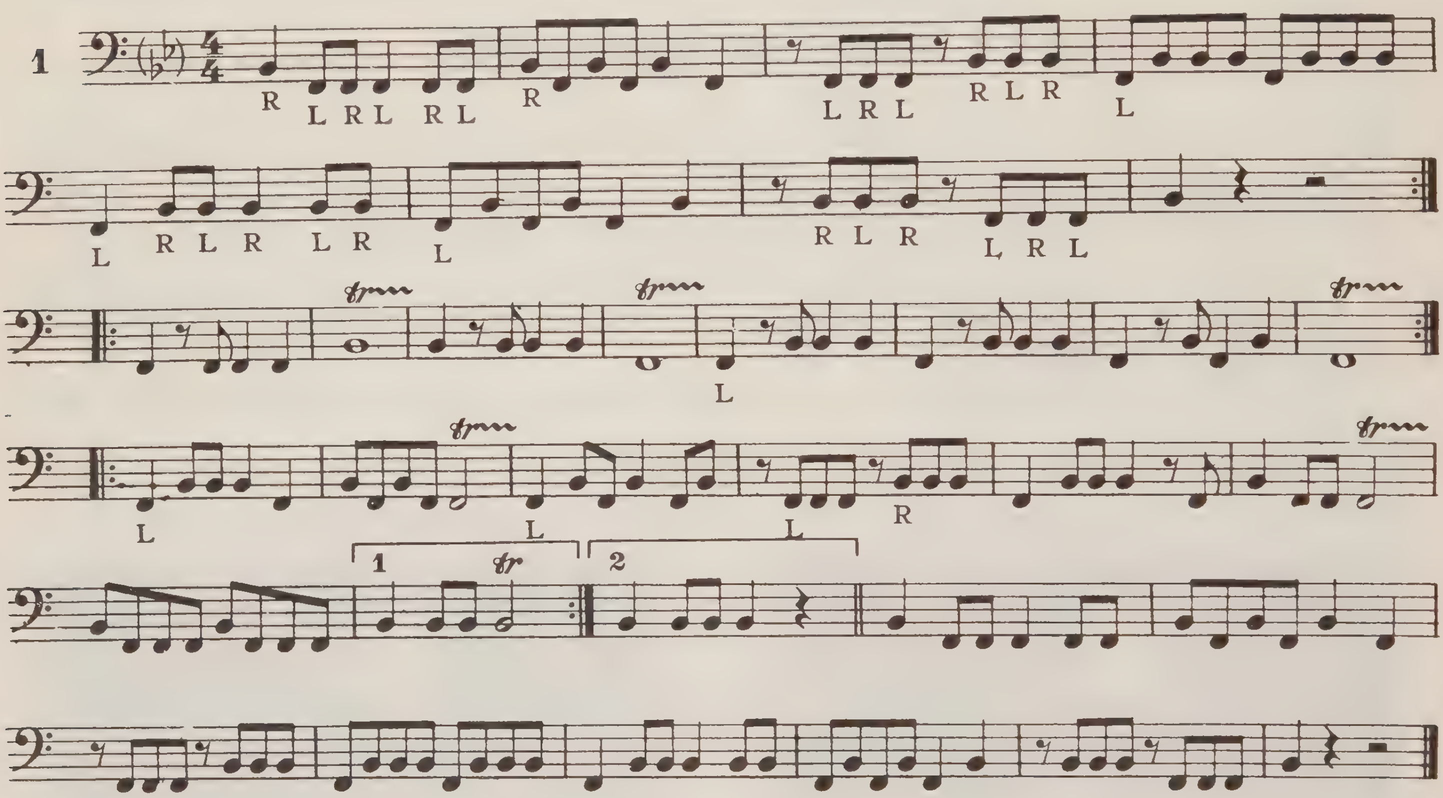
Twenty Technical Studies

Exercises **1** to **14** inclusive contain no cross beats and are to be played "from hand to hand." In practicing exercises, stick alternation is usually desirable as it tends to equalize the technic in the two hands; in professional activities, however, the playing of certain passages with a single stick is advisable (see text page **21**)

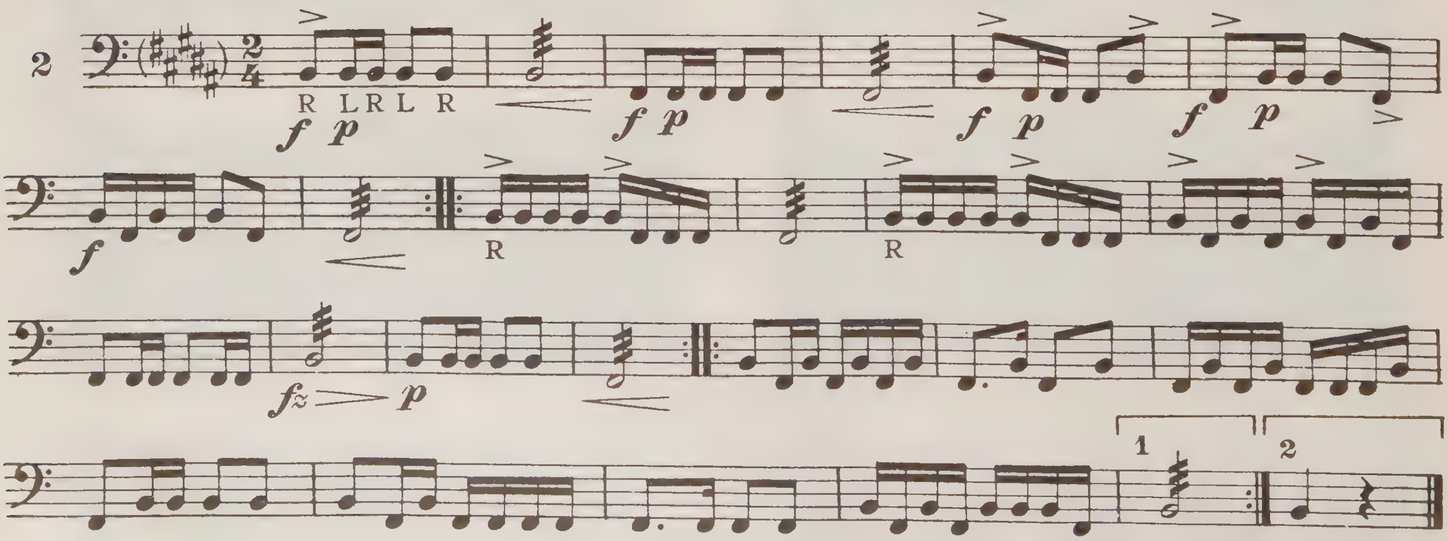
Exercises **15** and **16** are designed principally for cross beat technic. Cross beat figures which present particular difficulties should be taken from the exercise and practiced separately by repeating over and over.

These twenty exercises offer no complications upon hand-tuning drums. Obviously, pedal timpani may be used.

In B♭ & F



In B♮ & F♯

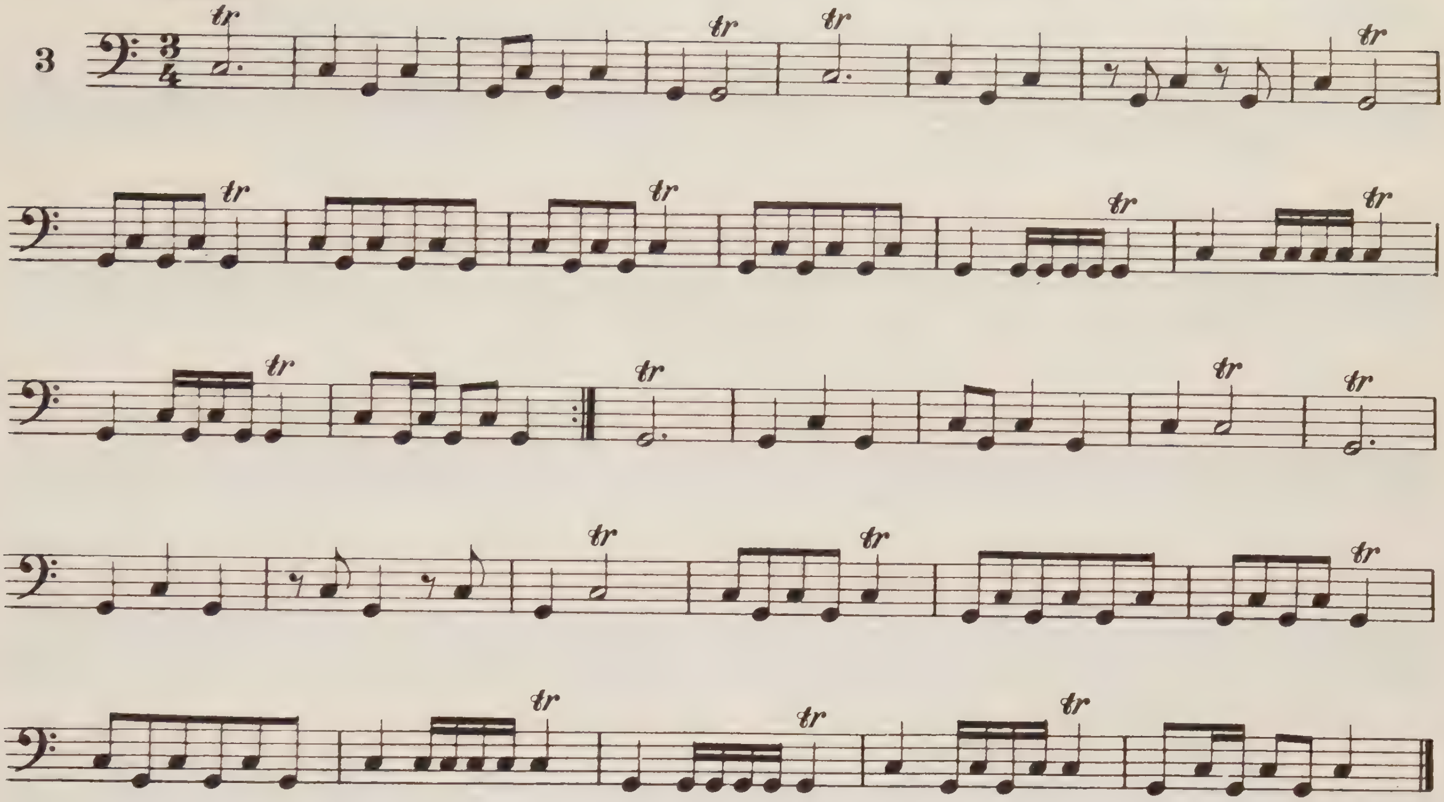


Library Property
Do Not Mark In Score

In C & G

Lento

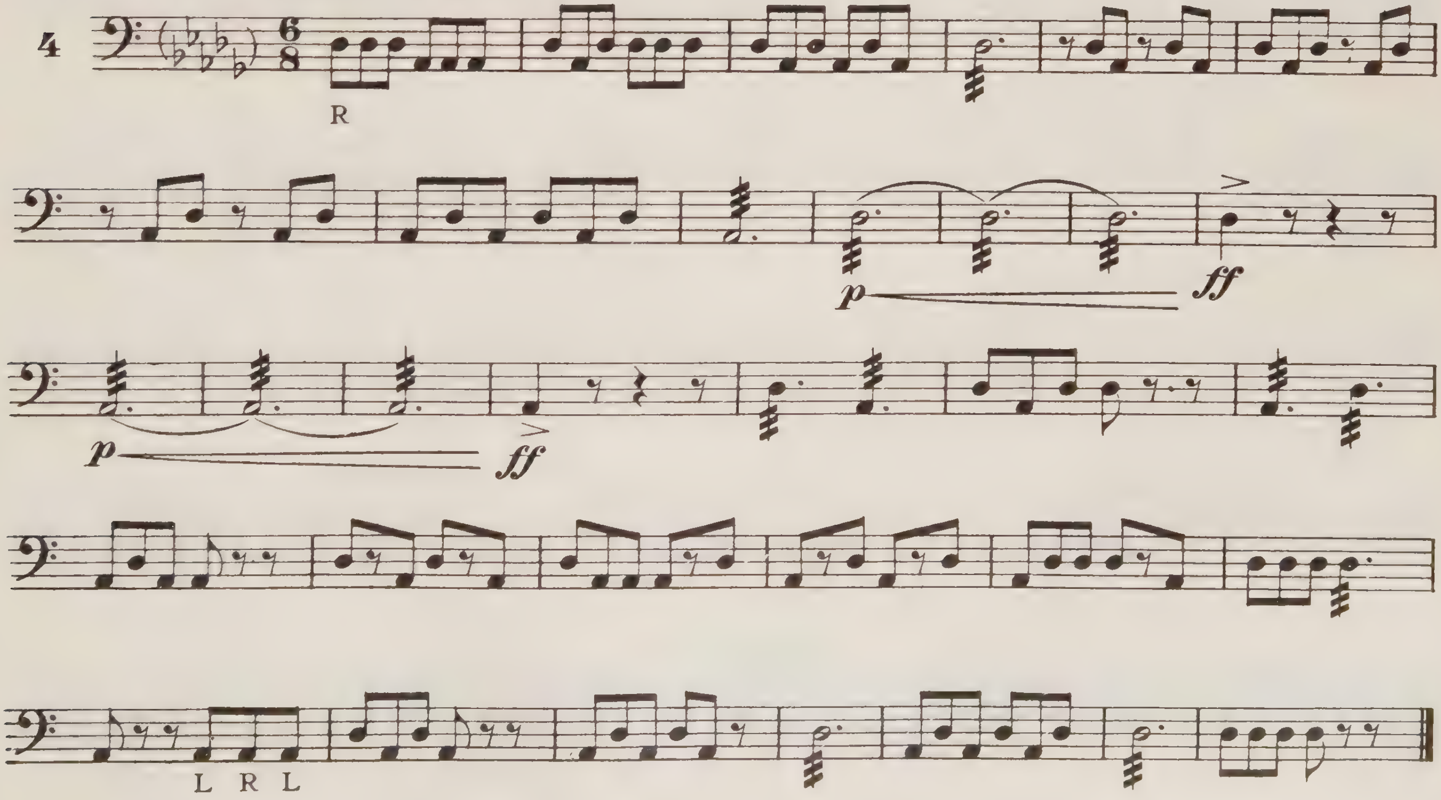
3



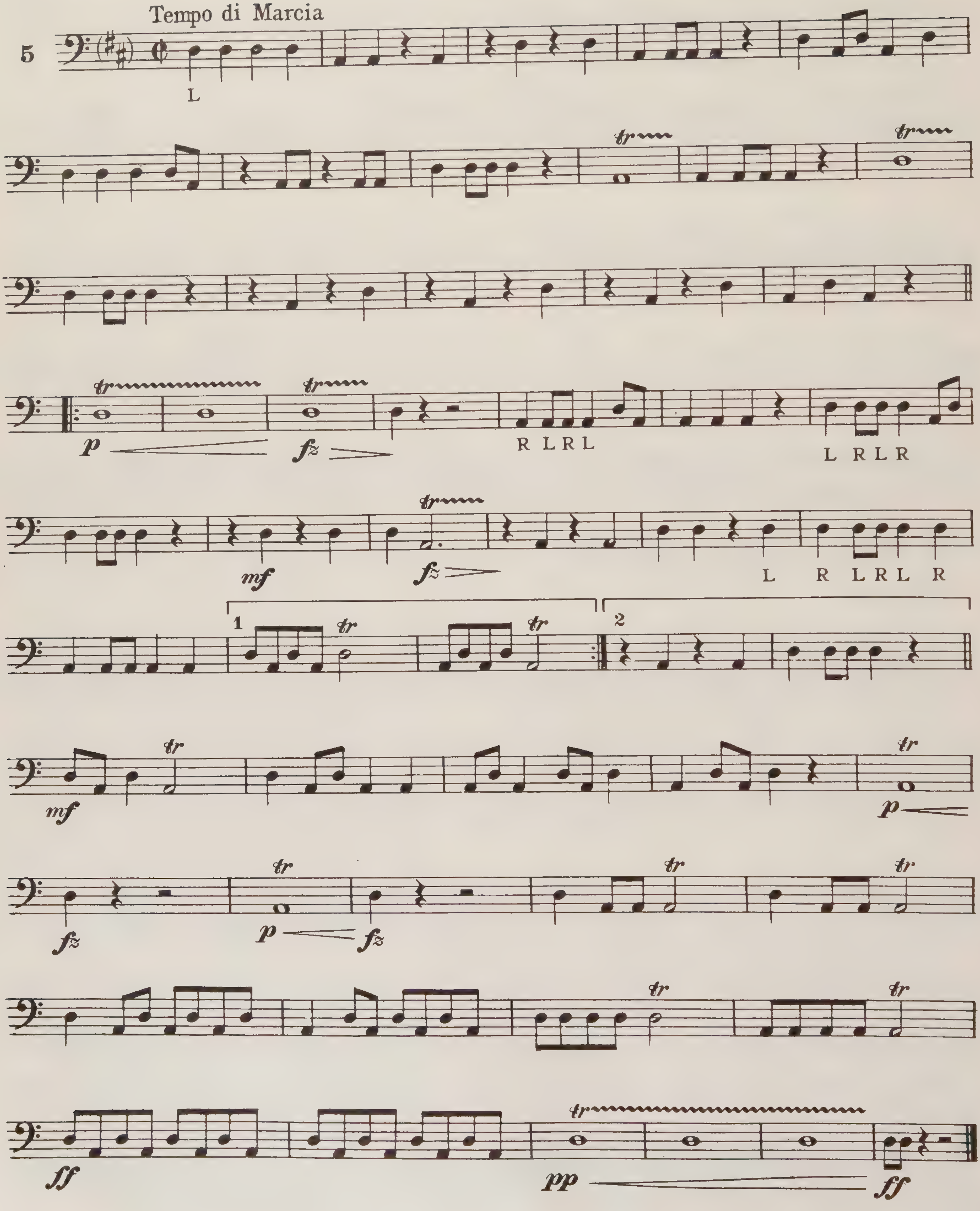
In D♭ & A♭

Tempo di Marcia

4



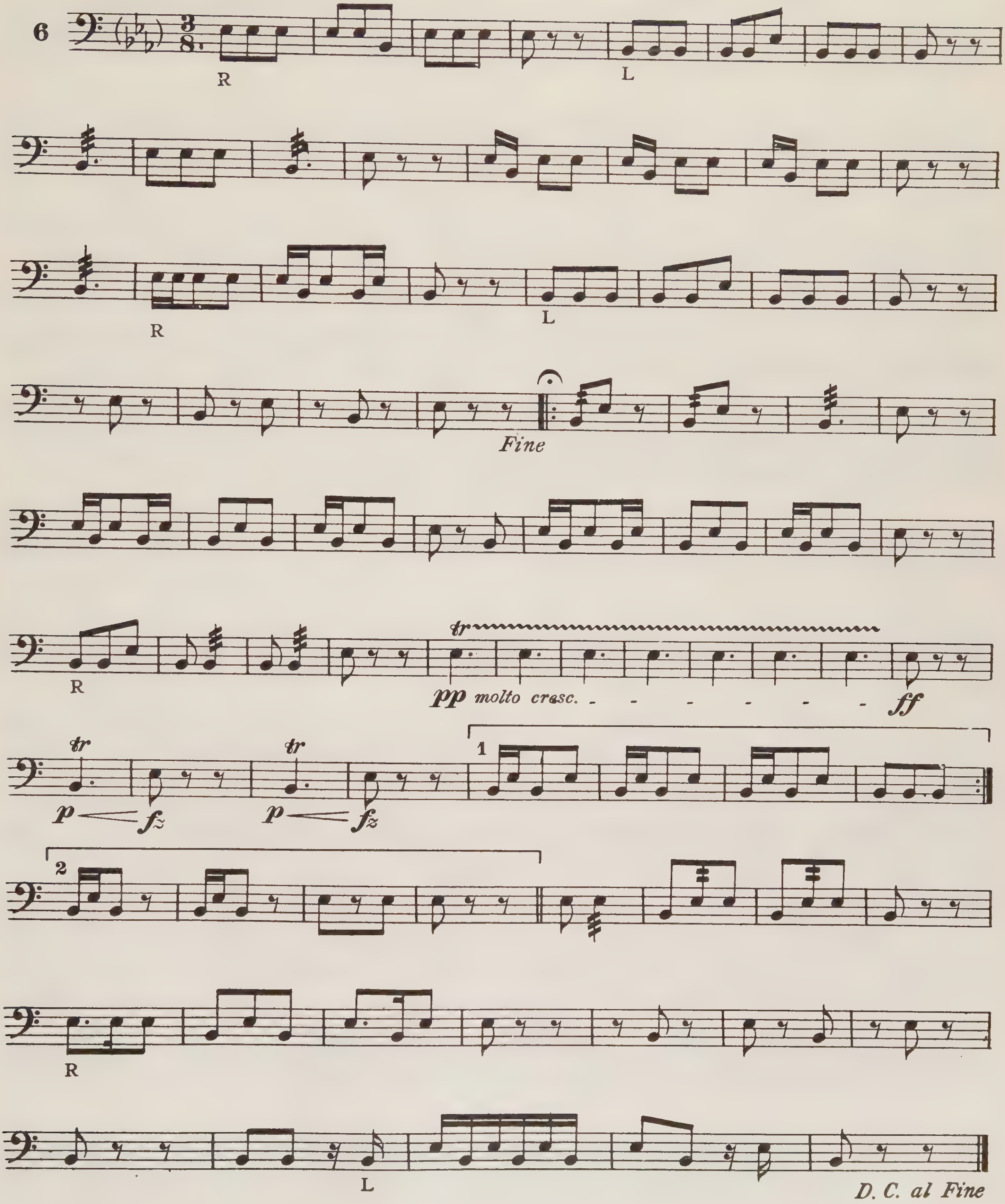
In D & A



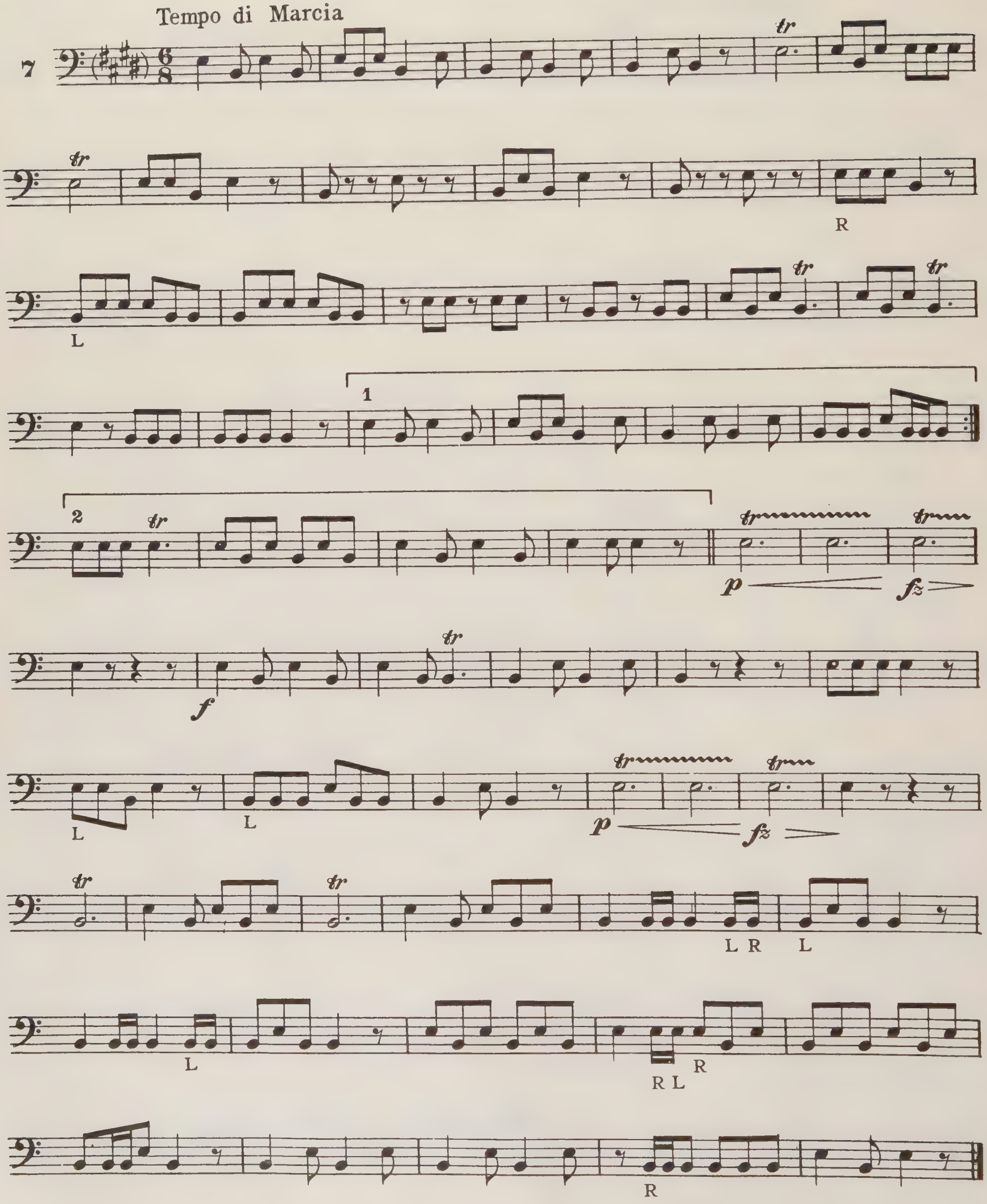
In E♭ & B♭

Tempo di Scherzo

6

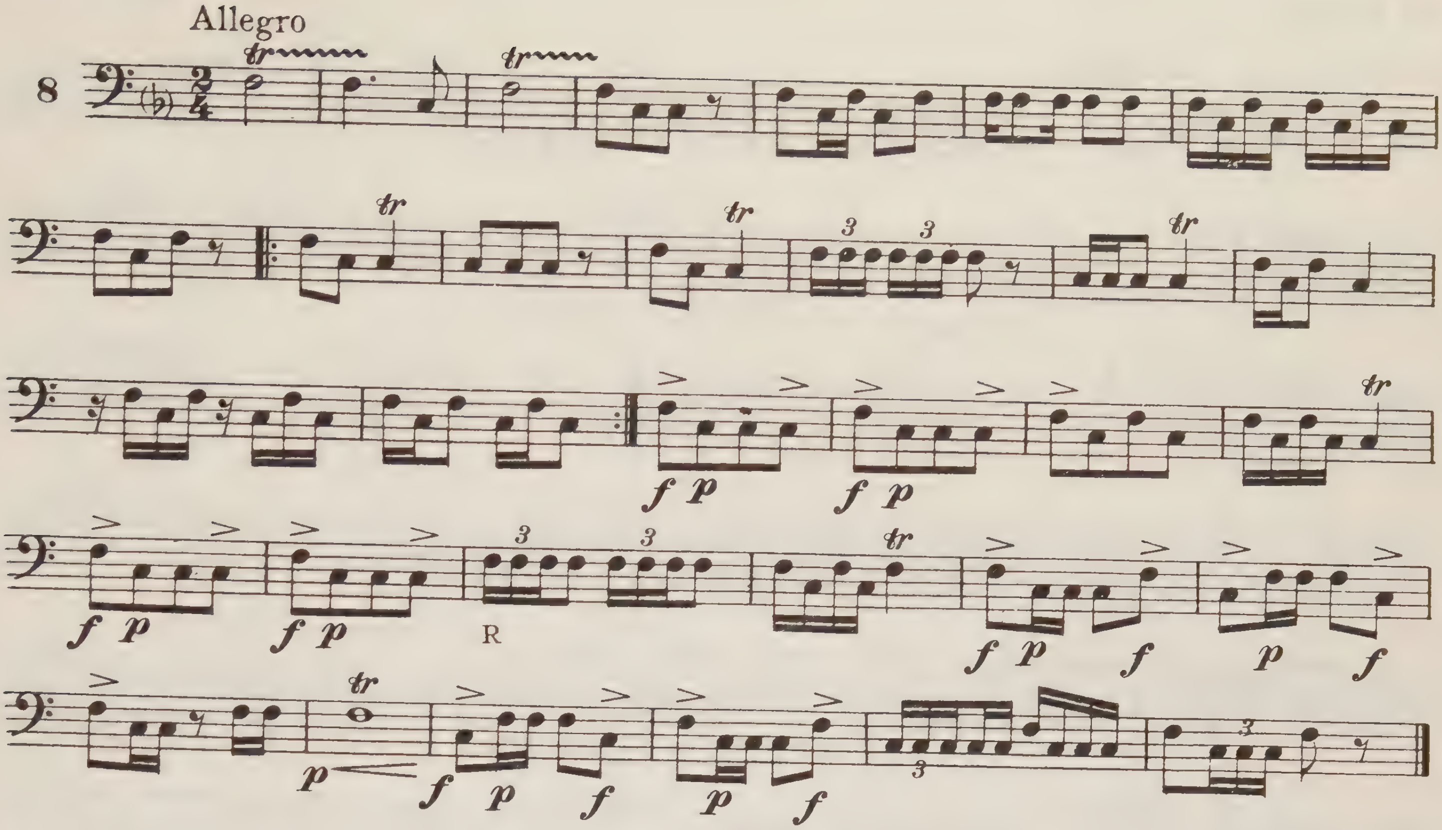


In E & B



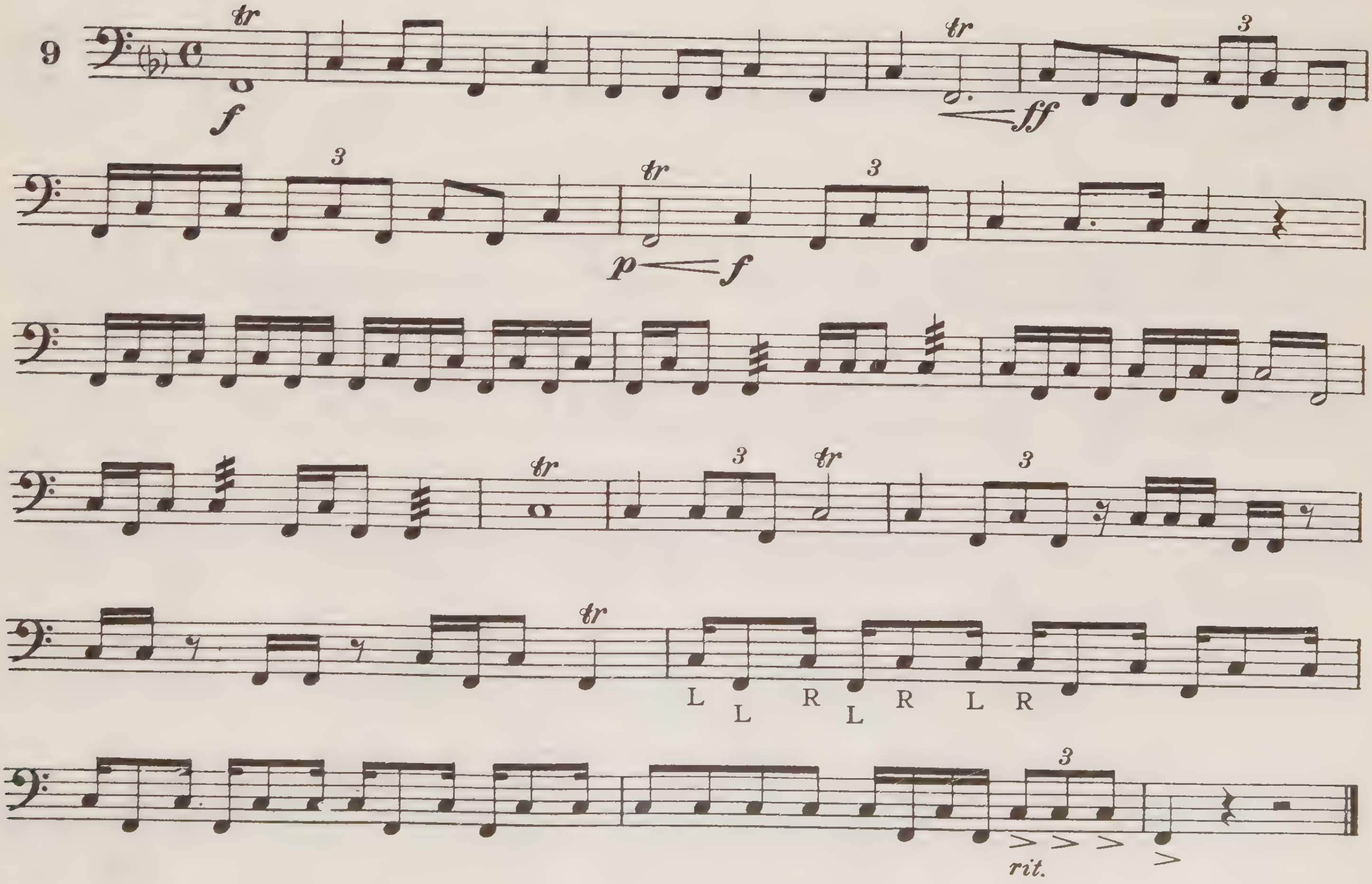
In F & C

8



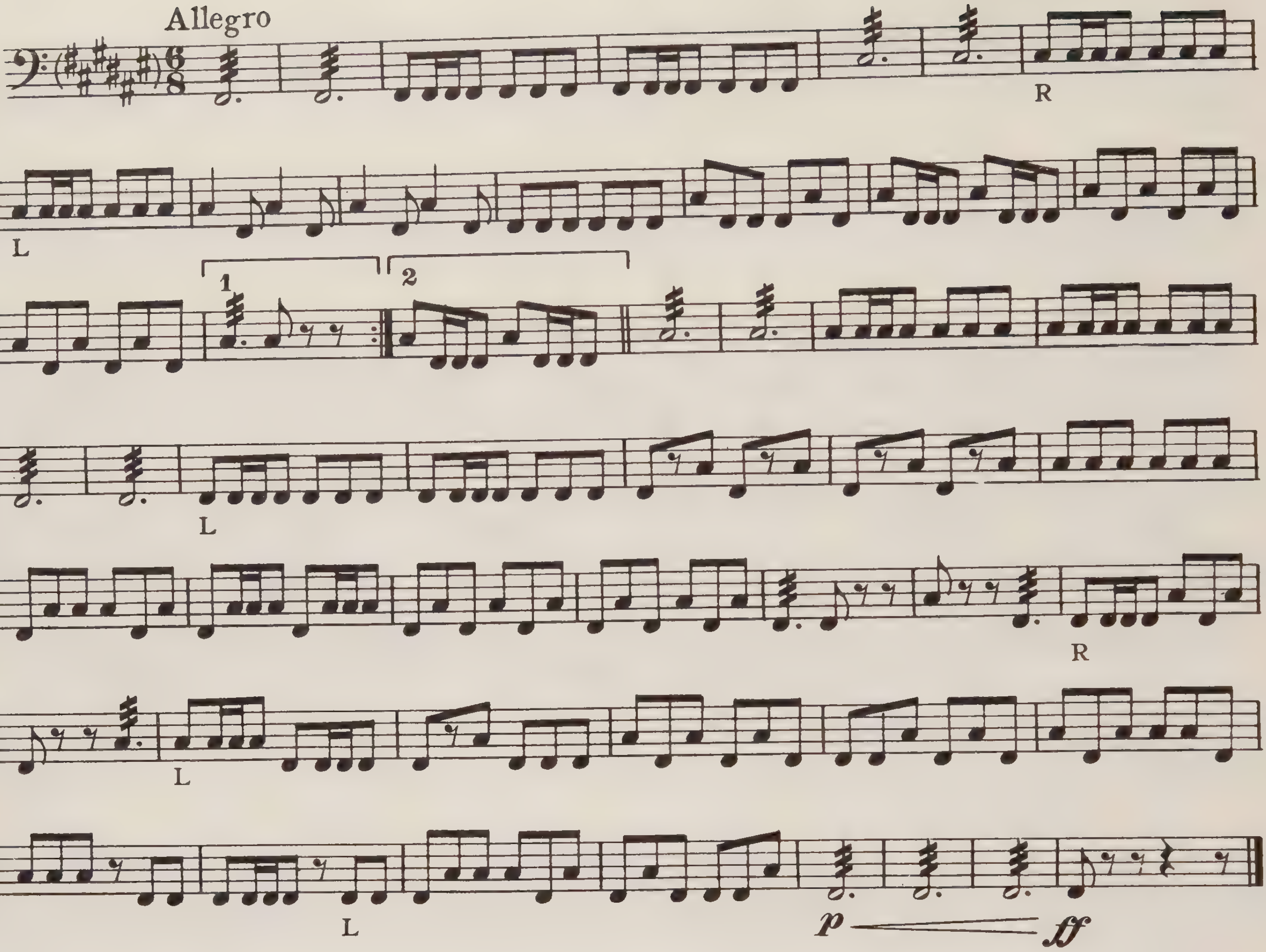
In F & C

9



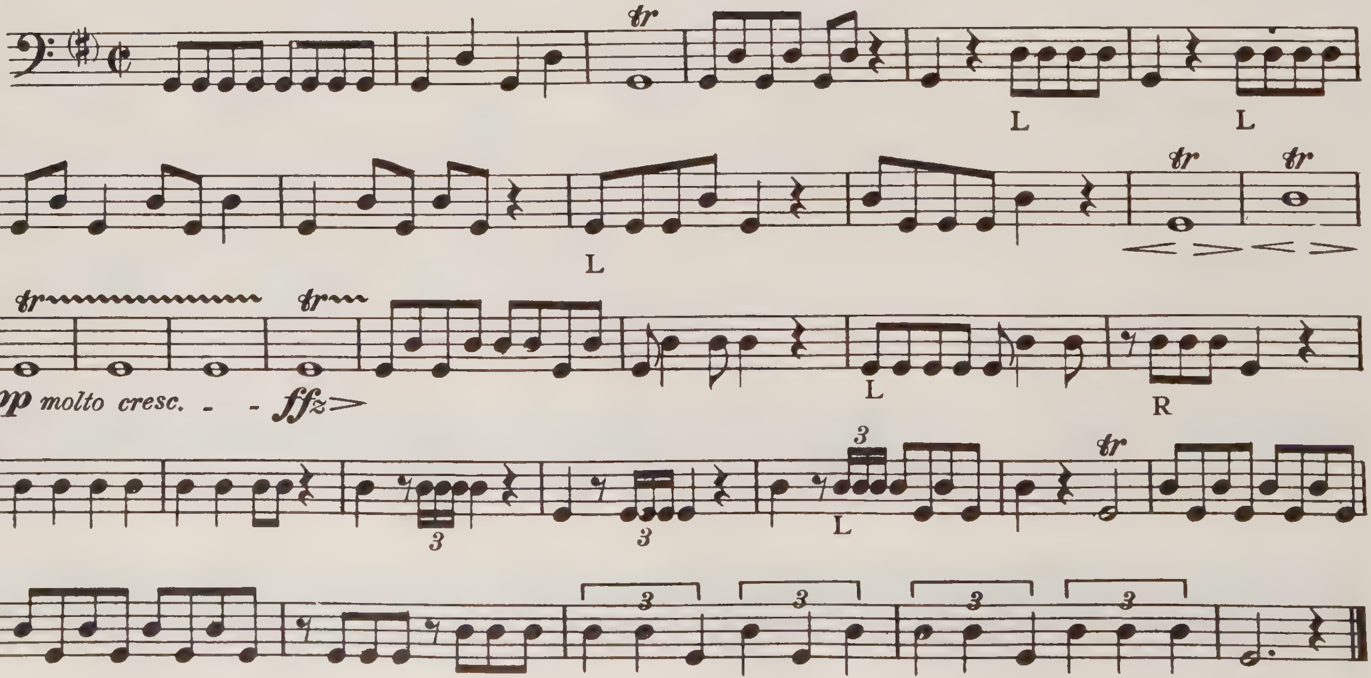
In F♯ & C♯

10



In G & D

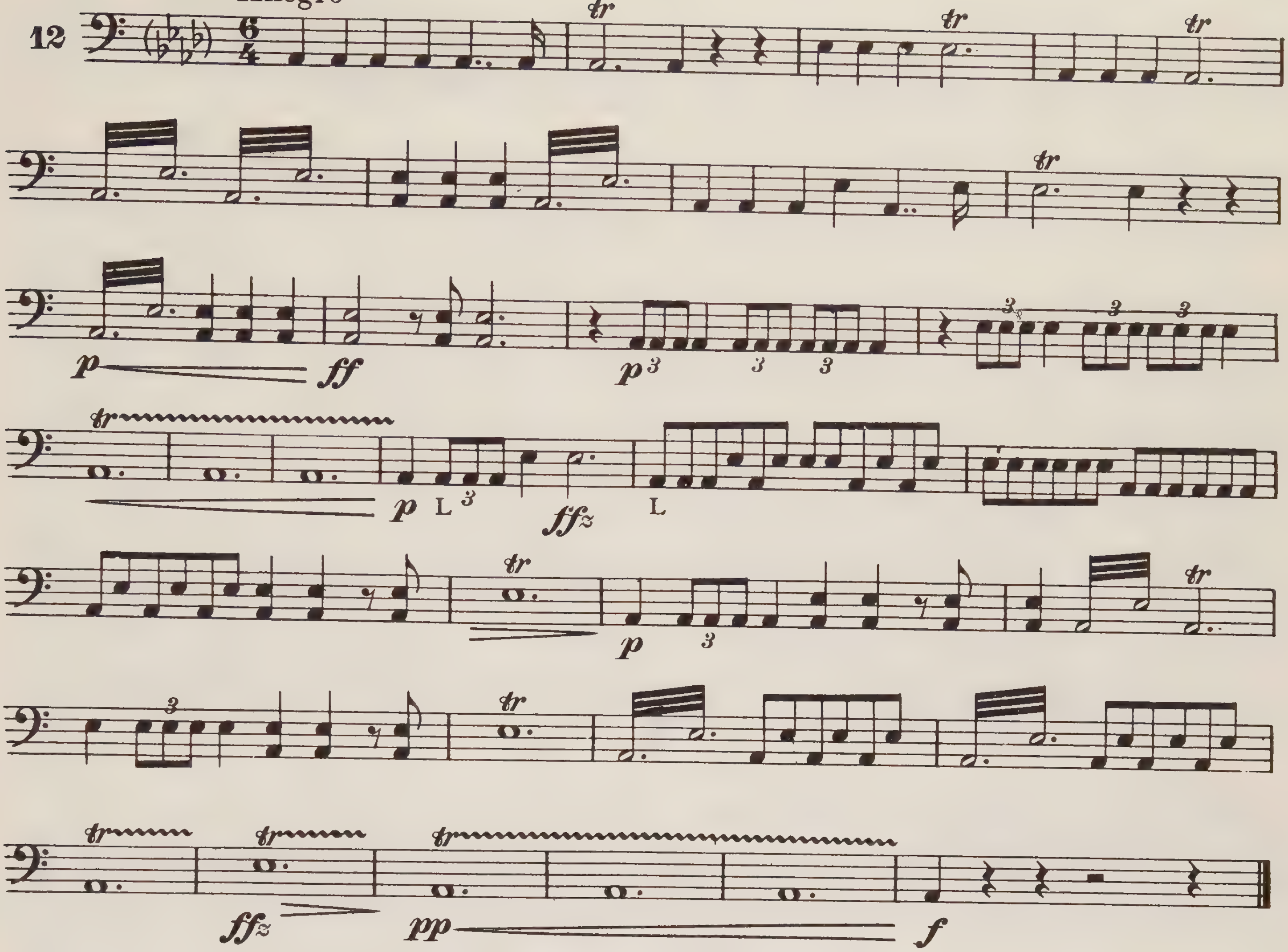
11



In A♭ & E♭

Allegro

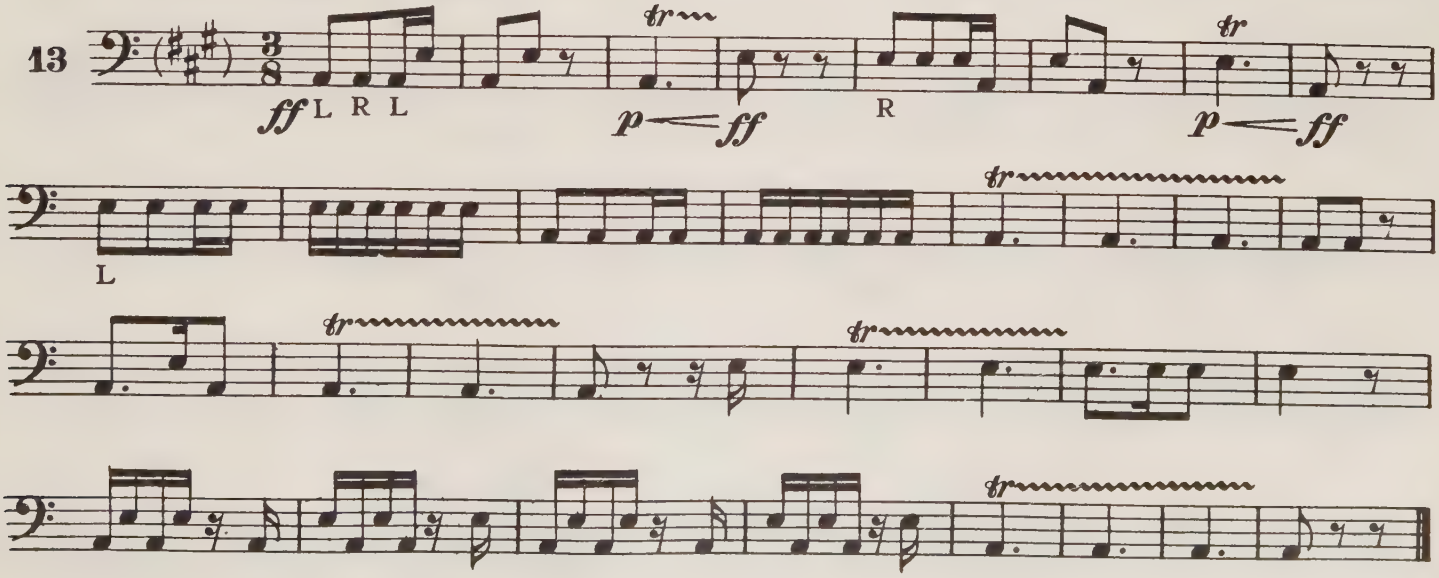
12



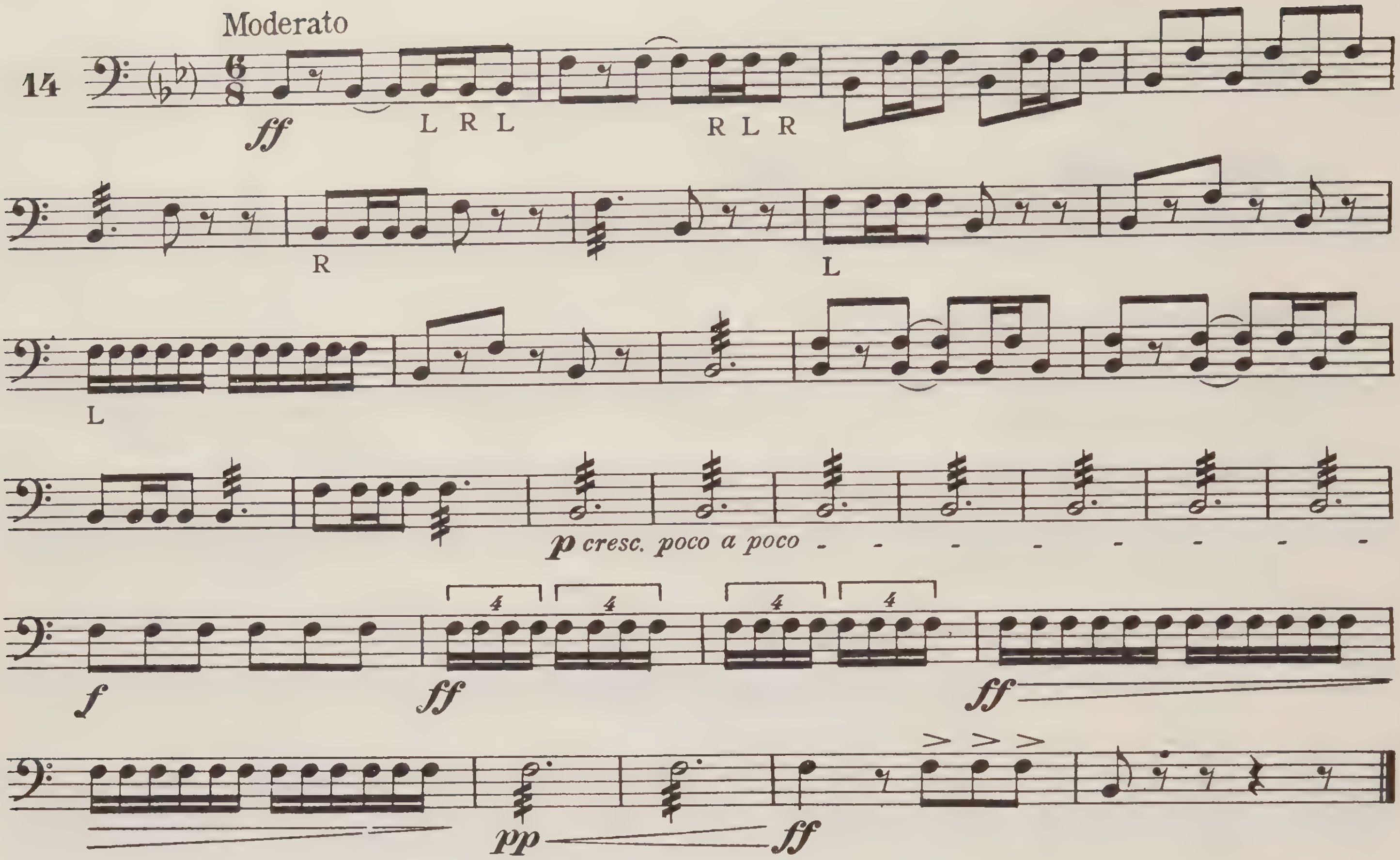
In A & E

Tempo di Scherzo

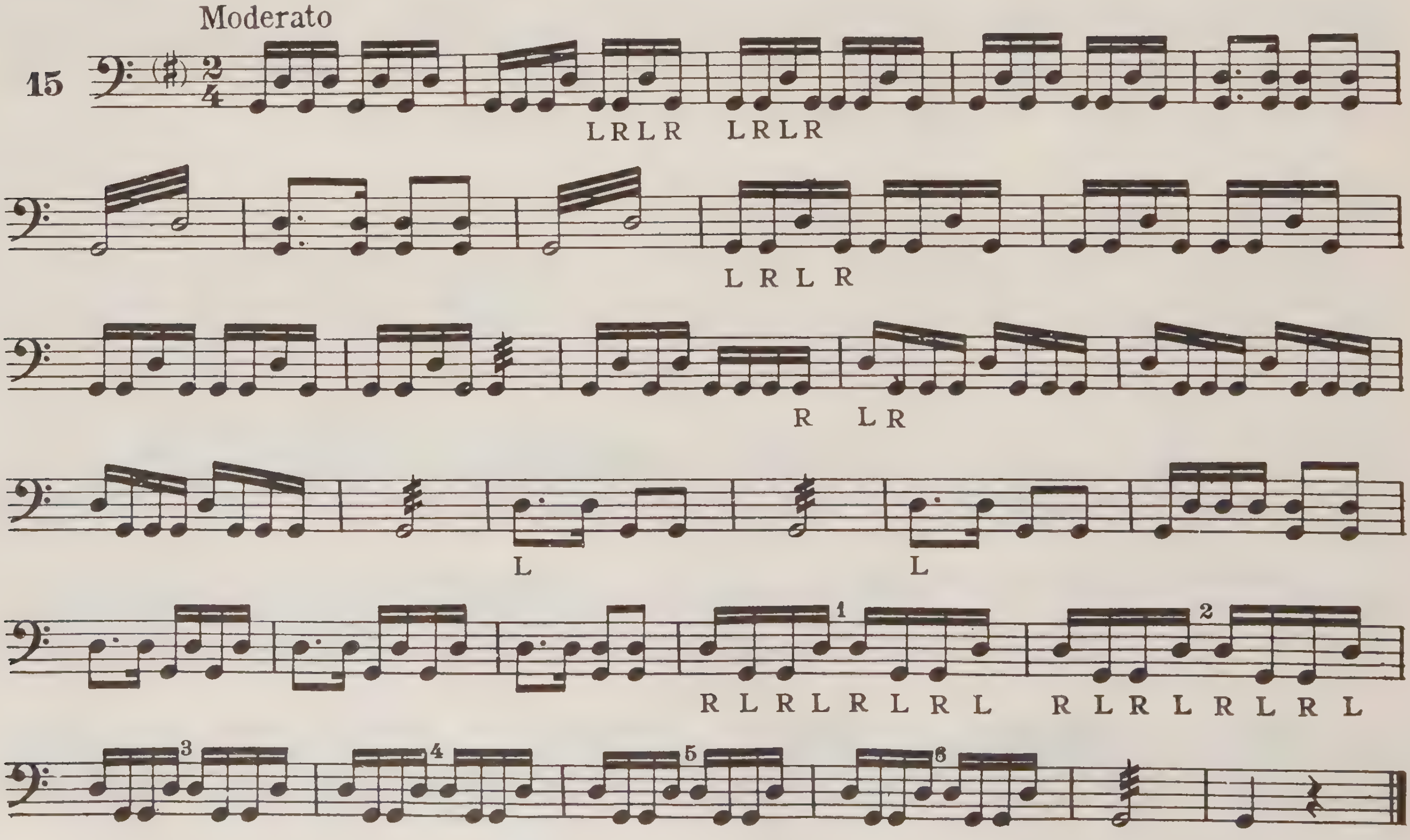
13



In B♭ & F

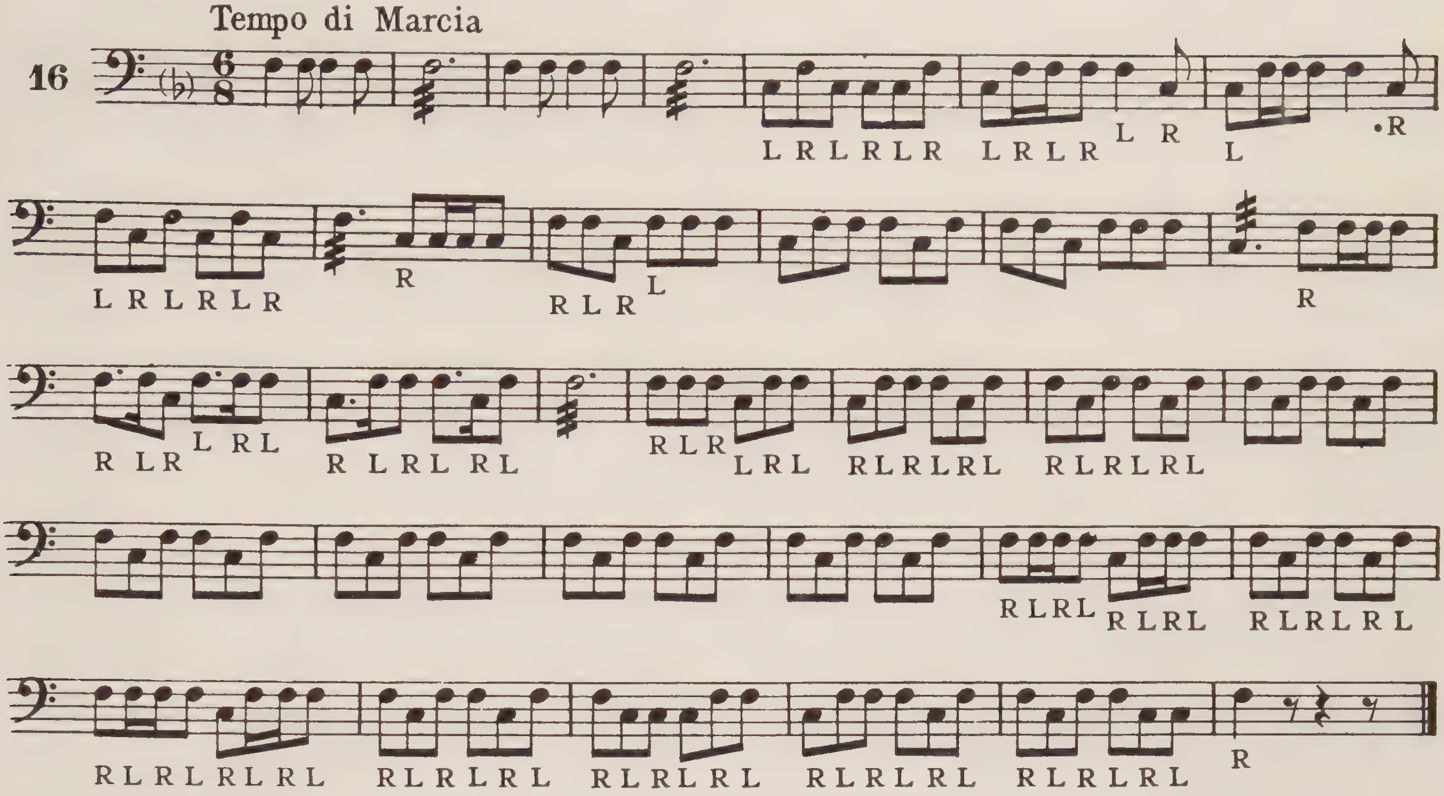


In G & D (Cross Beats for the Left Stick)



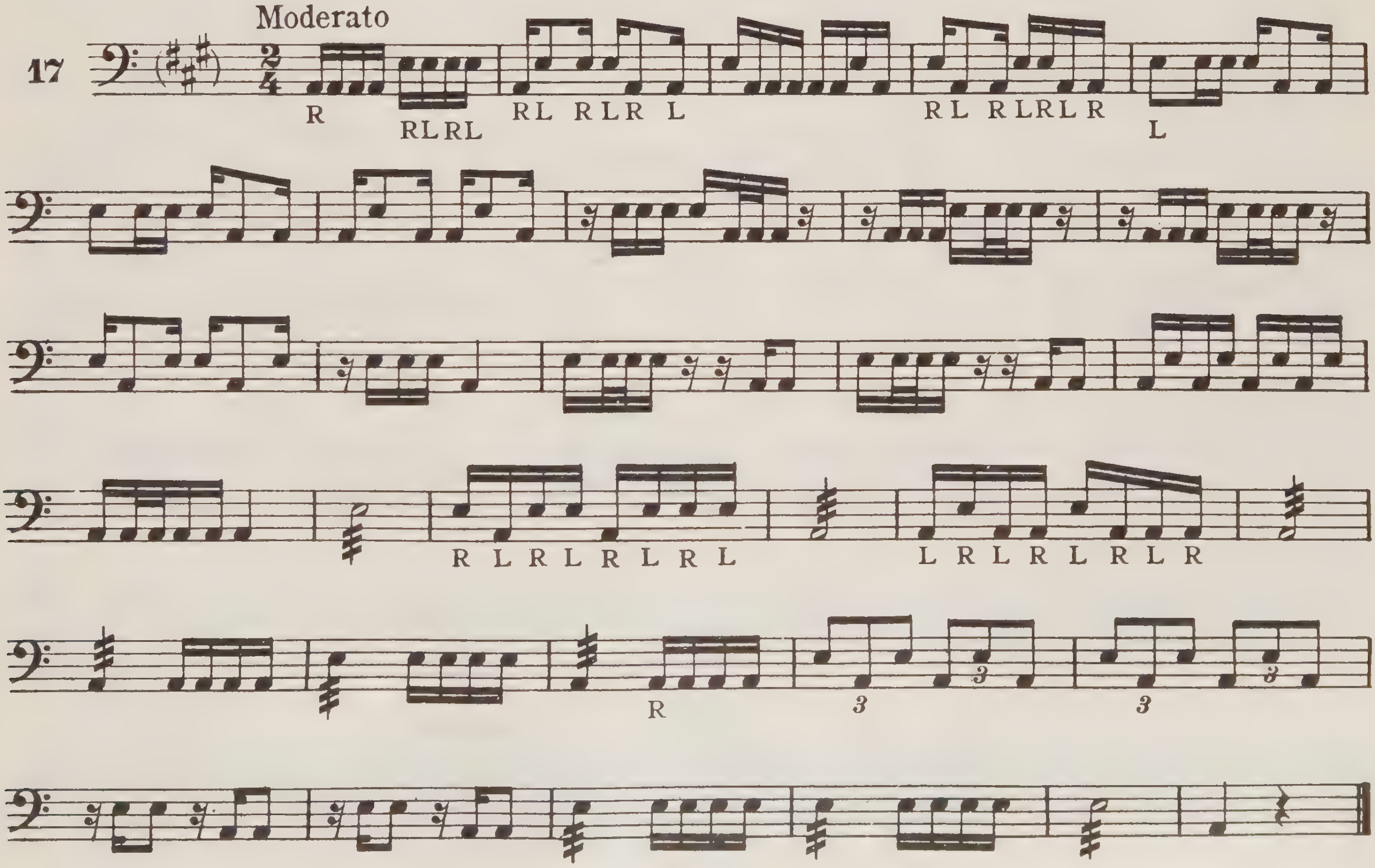
In F & C (Cross Beats for the Right Stick)

16


Tempo di Marcia
(♭)
6/8
L R L R L R L R L R L R L •R
L R L R L R R R L R L R
R L R L R L R L R L R L R L R L R L R L R L R L R L R L R L R L R L
R L R L R L R L R L R L R L
R L R L R L R L R L R L R L R L R L R L R L R L R L R L R L R L R L R L R L R L R

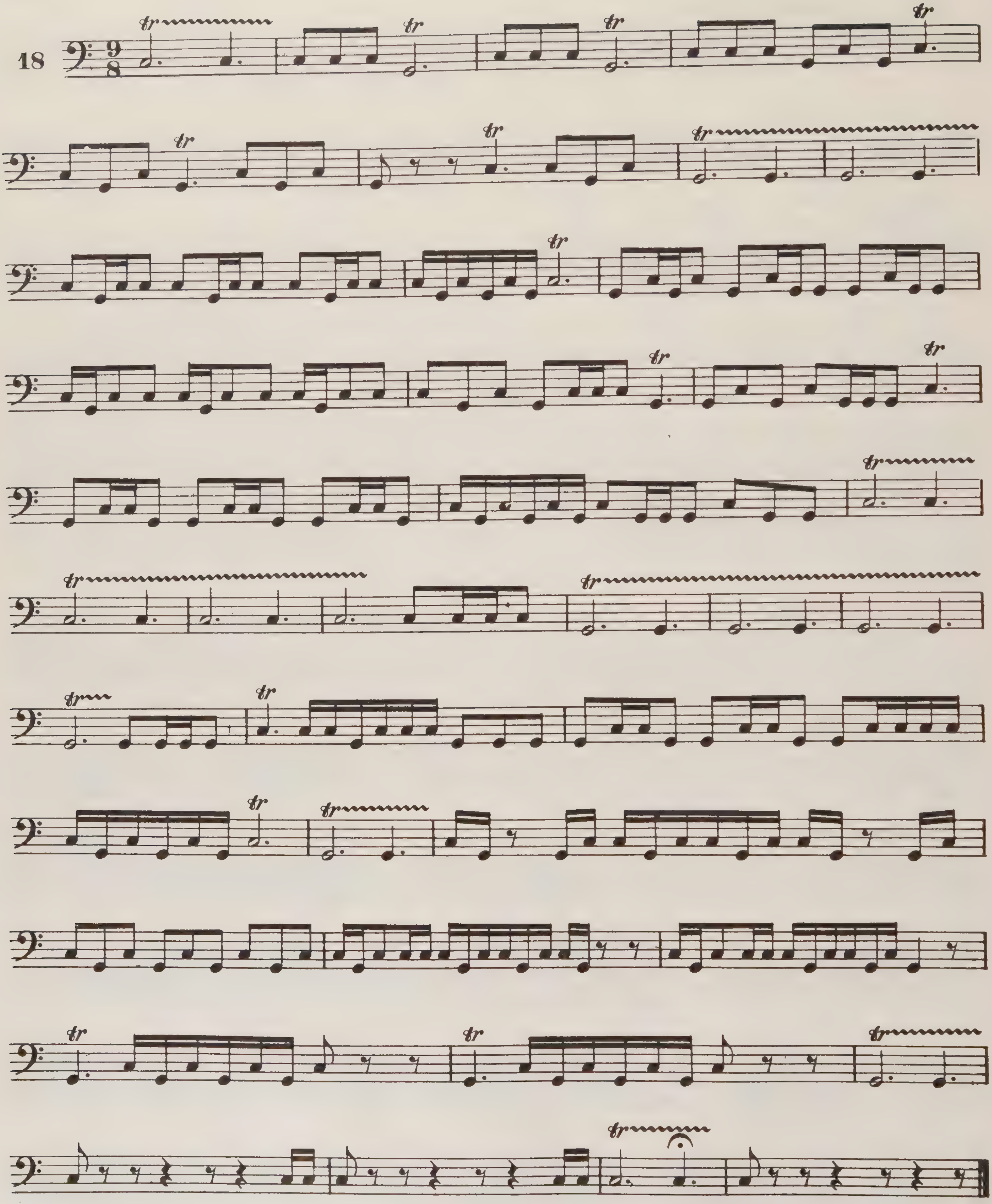
In A & E

17



In C & G

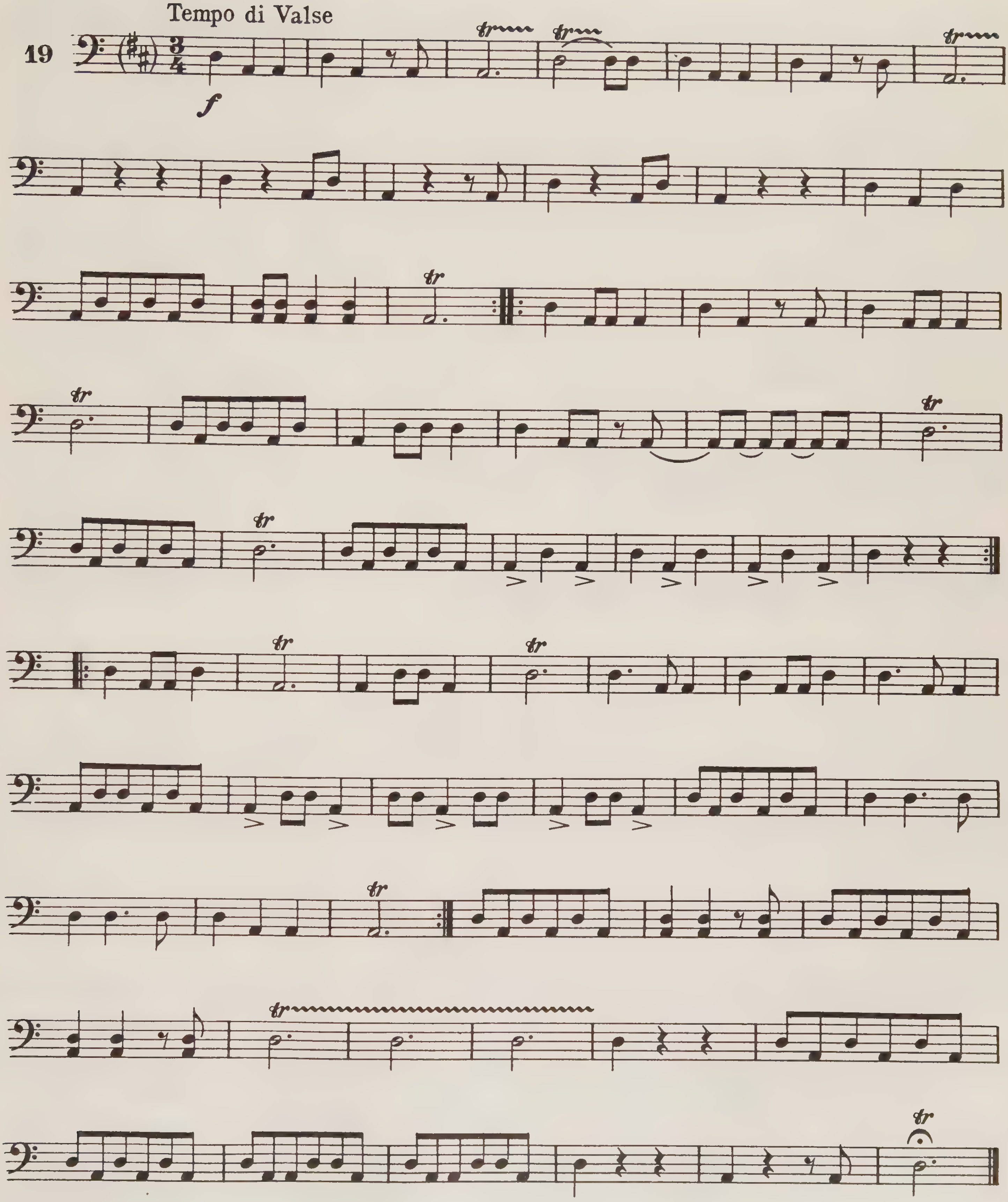
18



In D & A

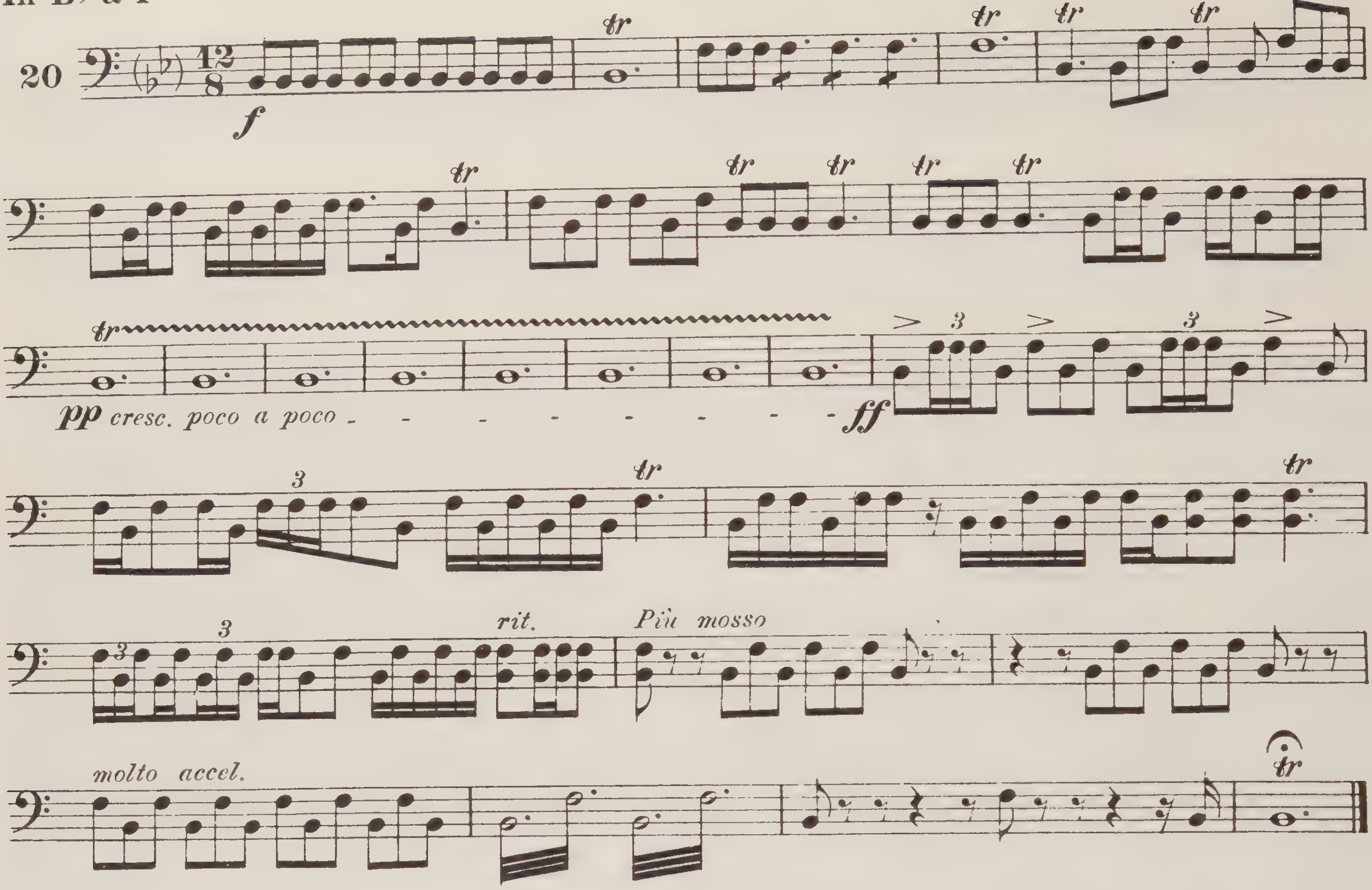
Tempo di Valse

19



In B♭ & F

20



Orchestra Studies

For Two Timpani

The first quotation shows the opening measure of Suppe's *Pique Dame* Overture. This is quoted not for technic, but to show the manner in which the overture commences. The first two quarters are silent throughout the orchestra, the overture commencing upon the third quarter of the first measure (see cue notes). Without this knowledge, the timpanist is likely to be one-half measure late in his entrance if the conductor does not indicate the two silent beats.

Opening Measures of

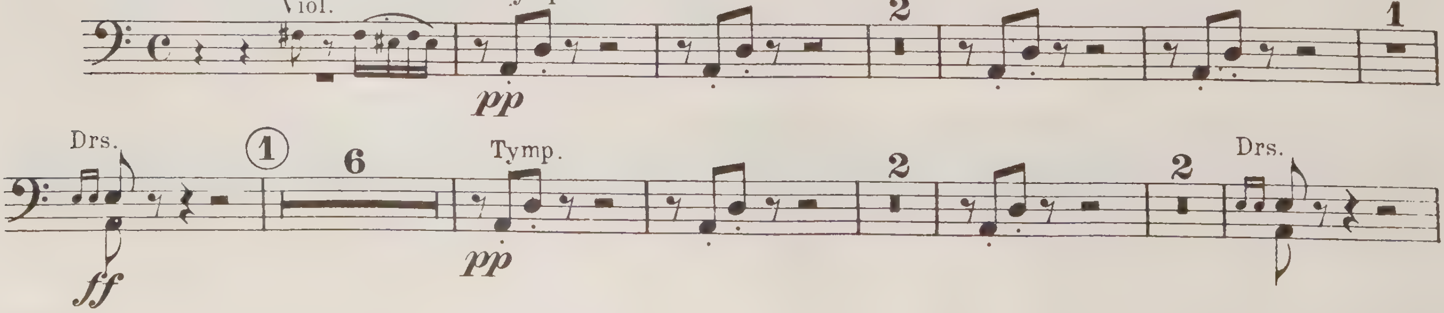
Pique Dame

OVERTURE

Timpani in D & A

Moderato quasi maestoso

Franz v. Suppé



M. Moszkowski's

"Spanish Dances"

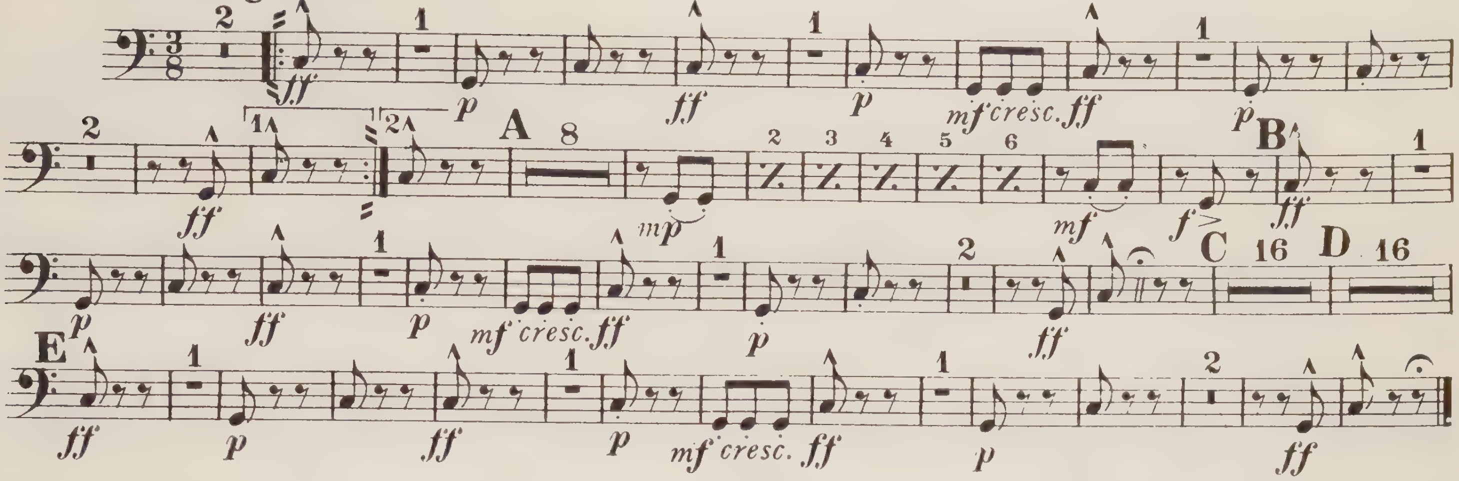
Timpani in C & G

No I.

Original No I.

arr. by Theo. Moses-Tobani.

Allegro brioso

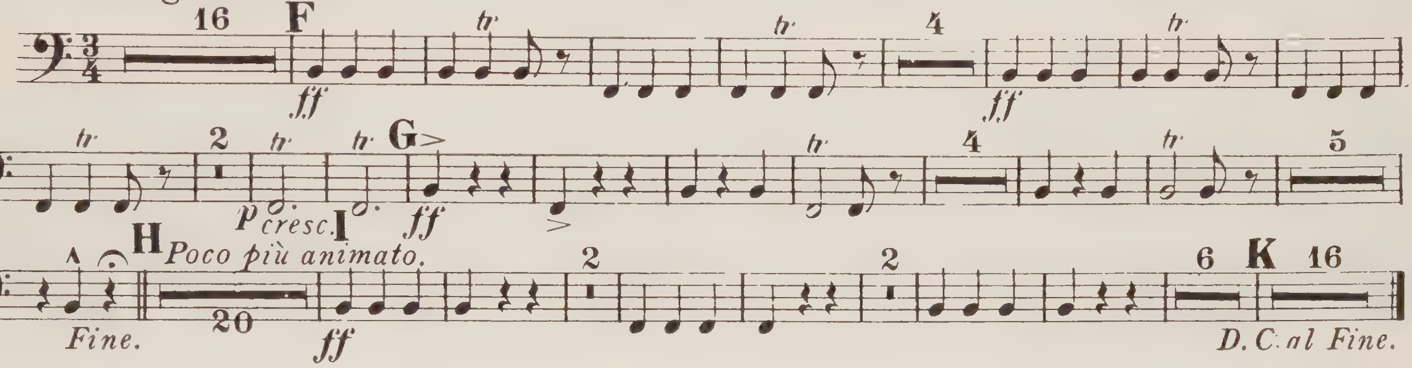


in B♭ & F

No II.

Original No IV.

Allegro commodo.

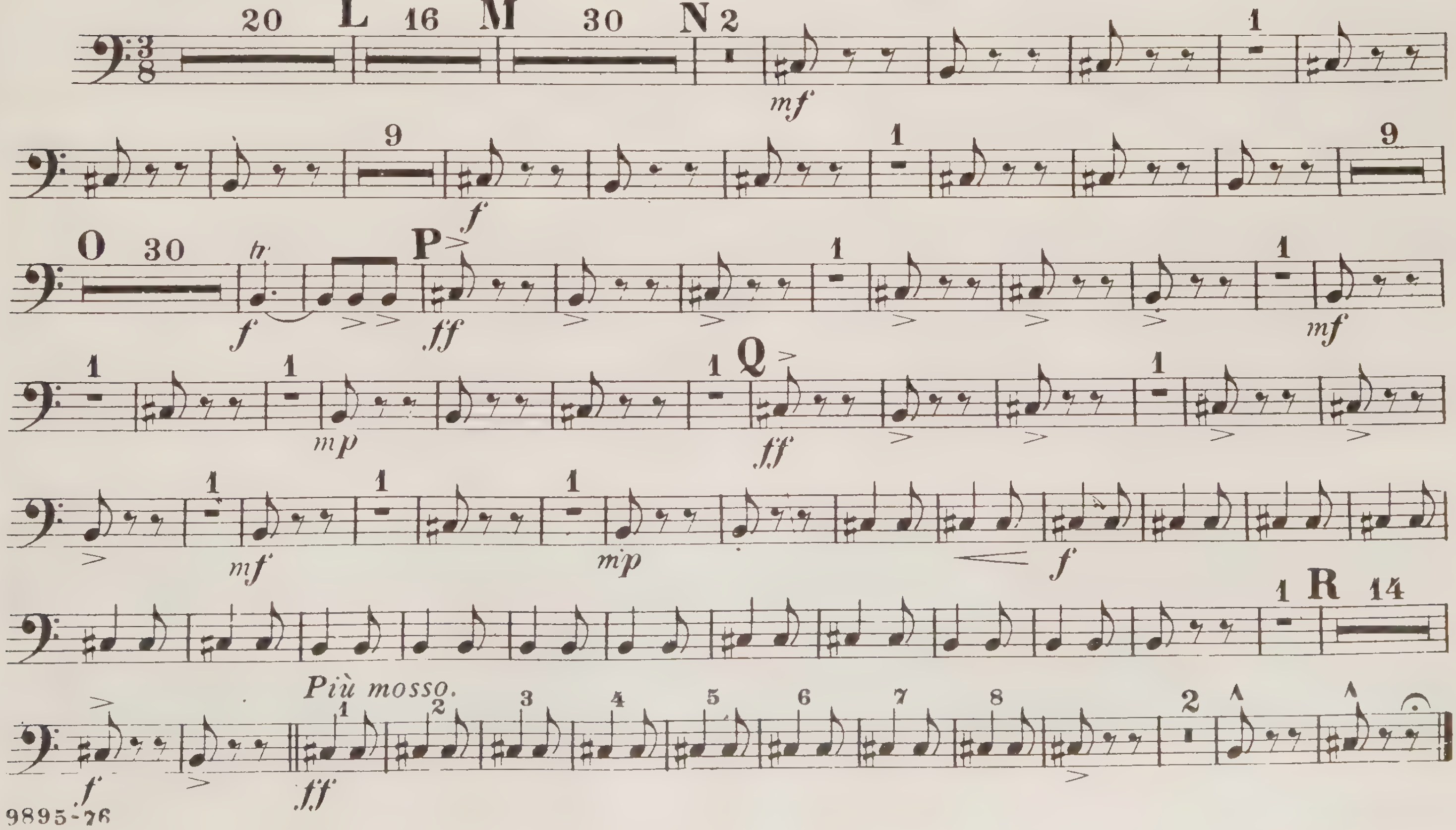


in C♯ & B

No III.

Original No III.

Con moto.



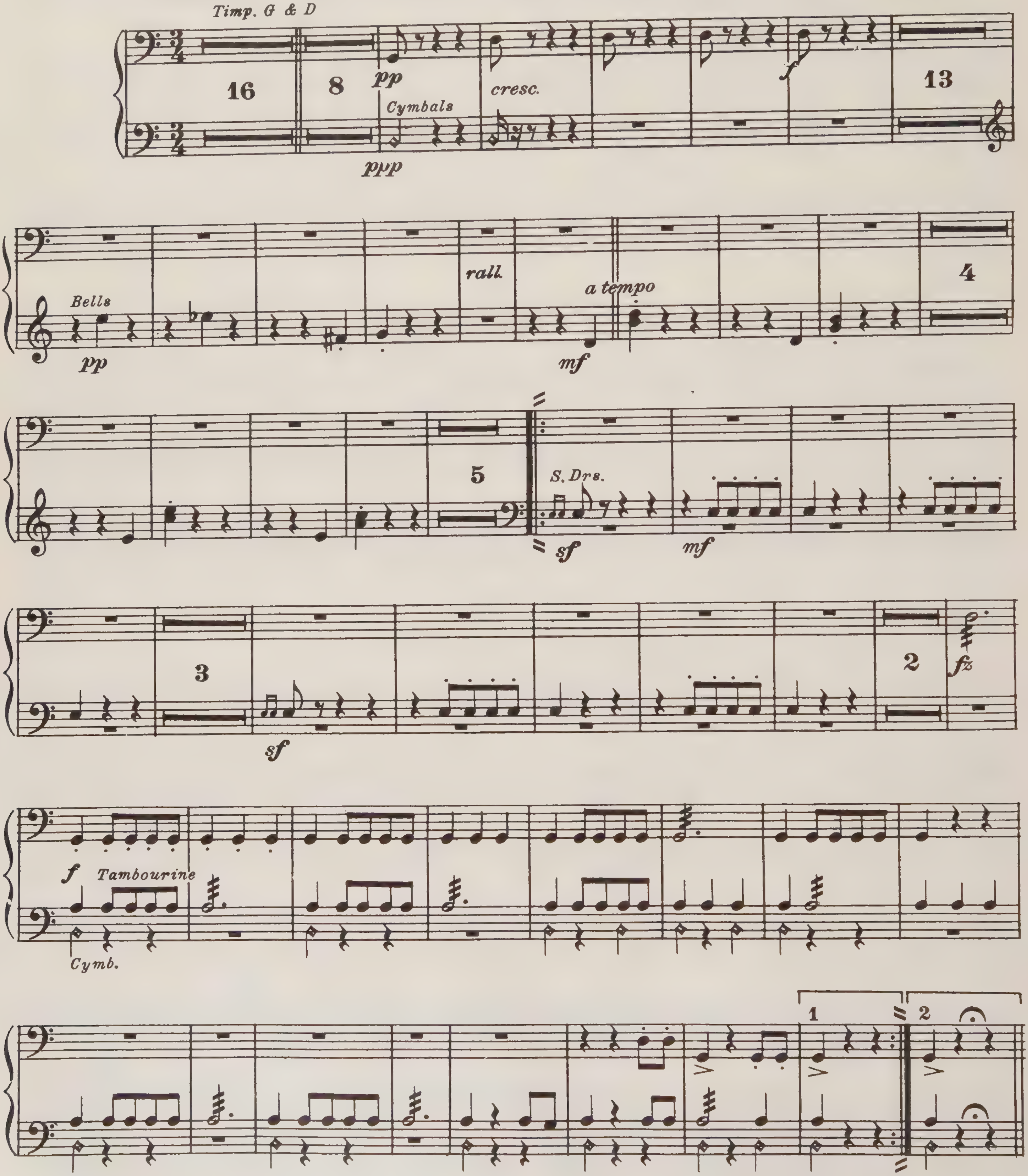
Spanish Dances

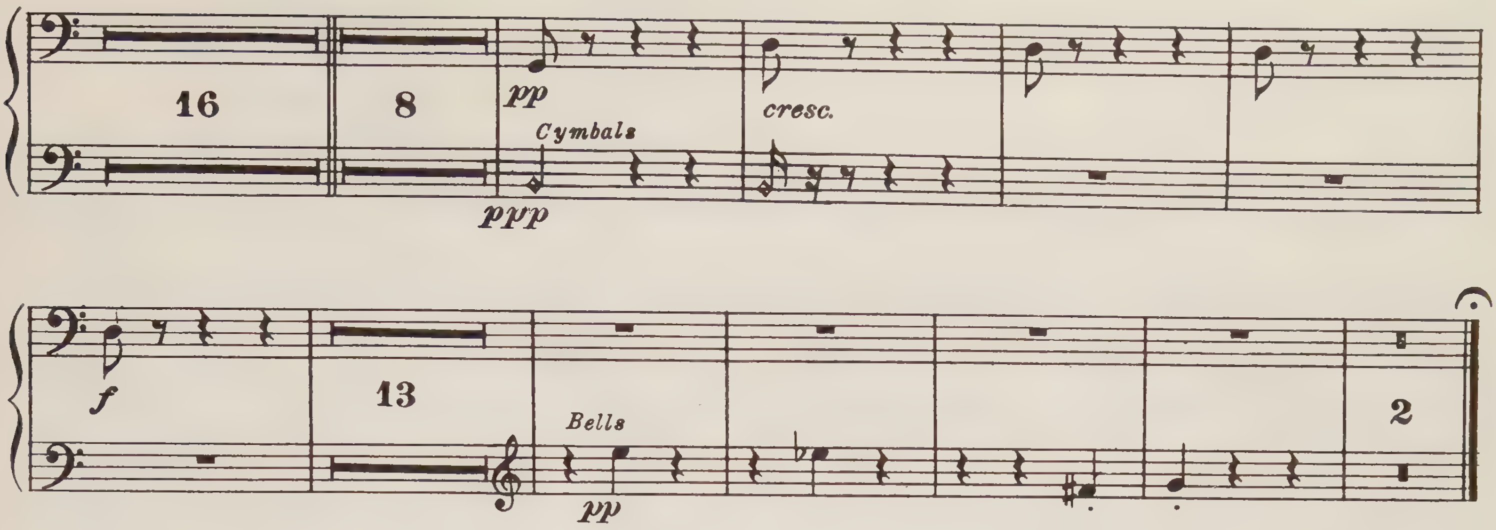
(Original №2)

Timpani,
Cymbal, Tambourine, Triangle, Bells

M. MOSZKOWSKI
arr. by Theo. Moses
Revised by Julius S. Seredy

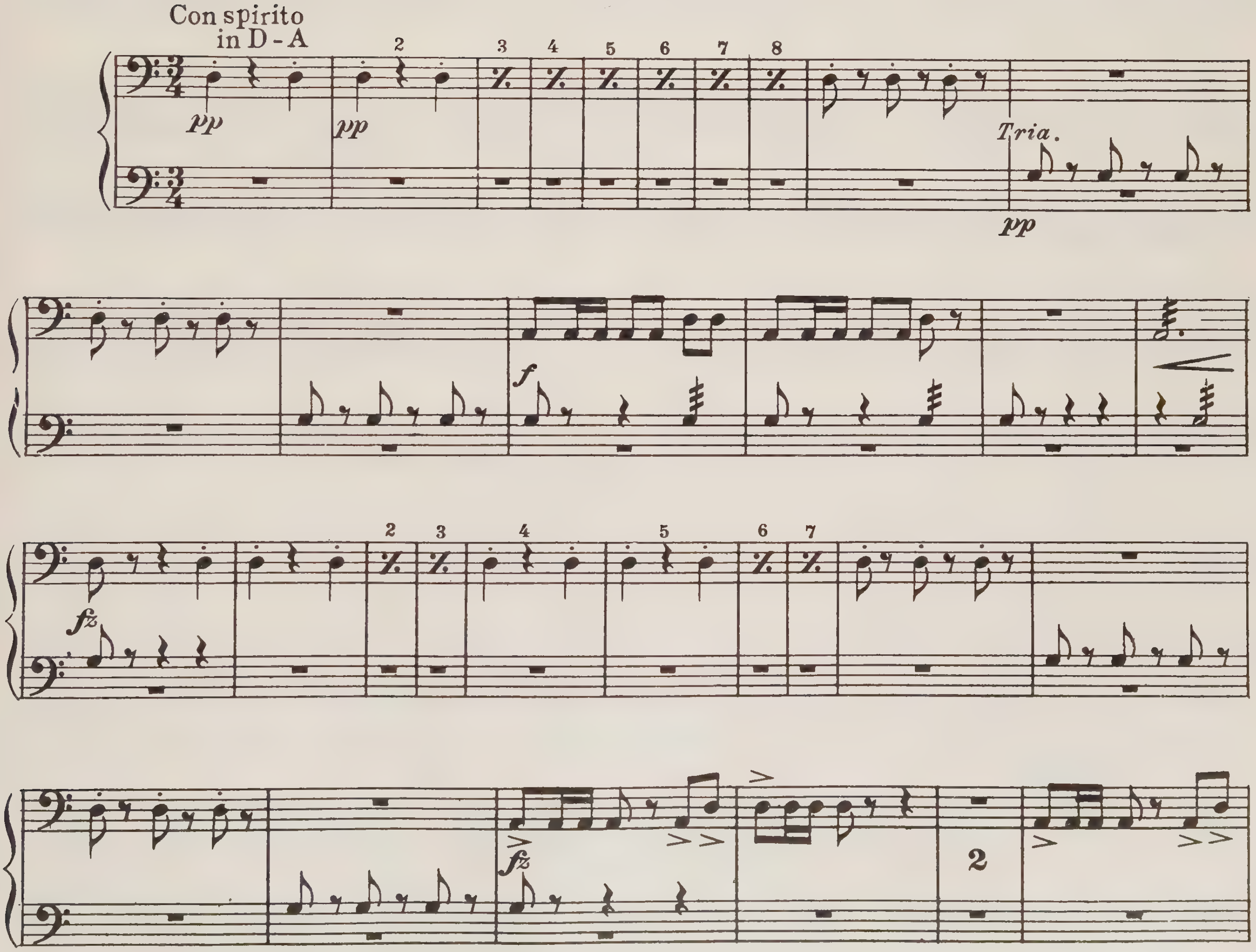
Moderato



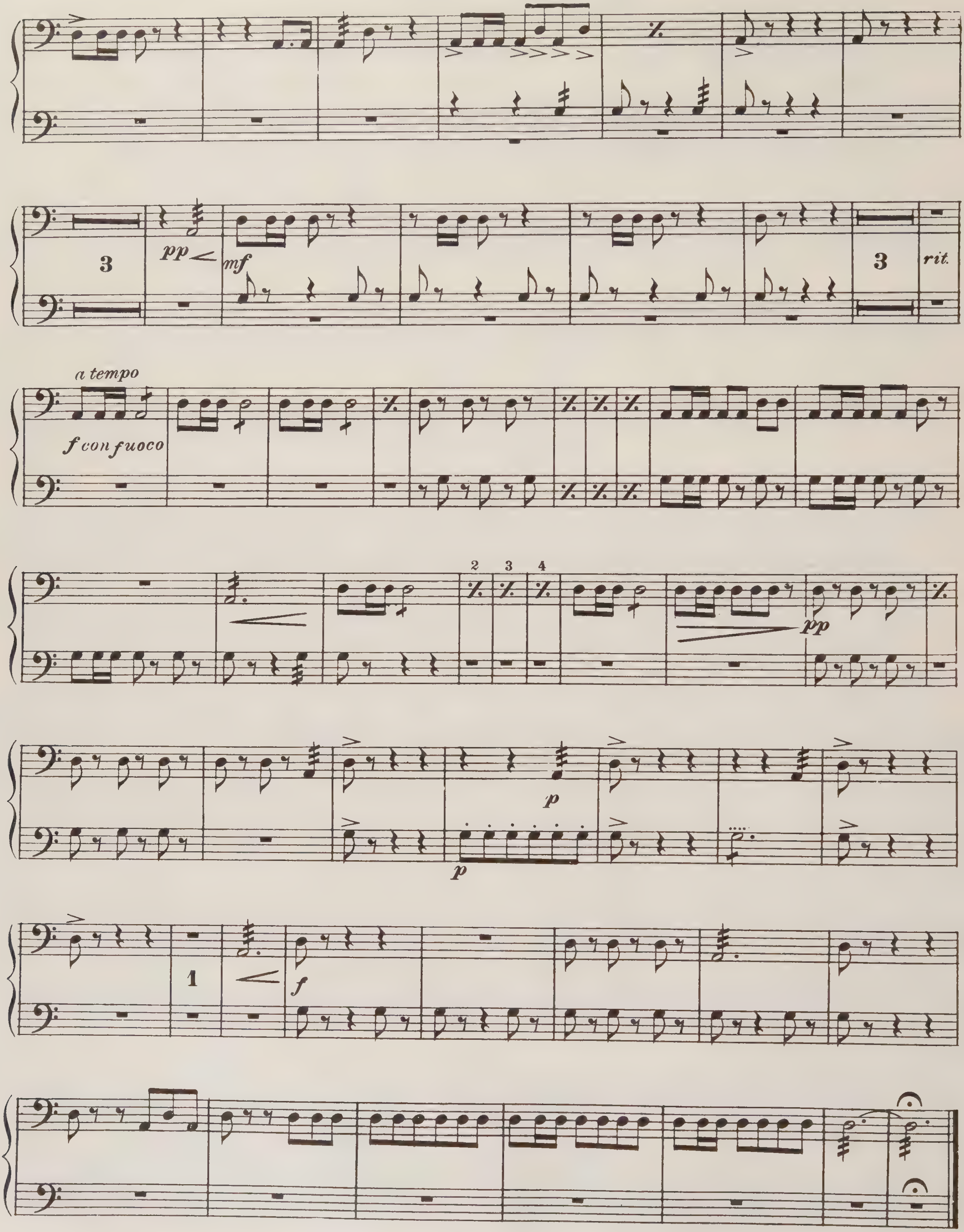


Bolero

(Original Nº 5)



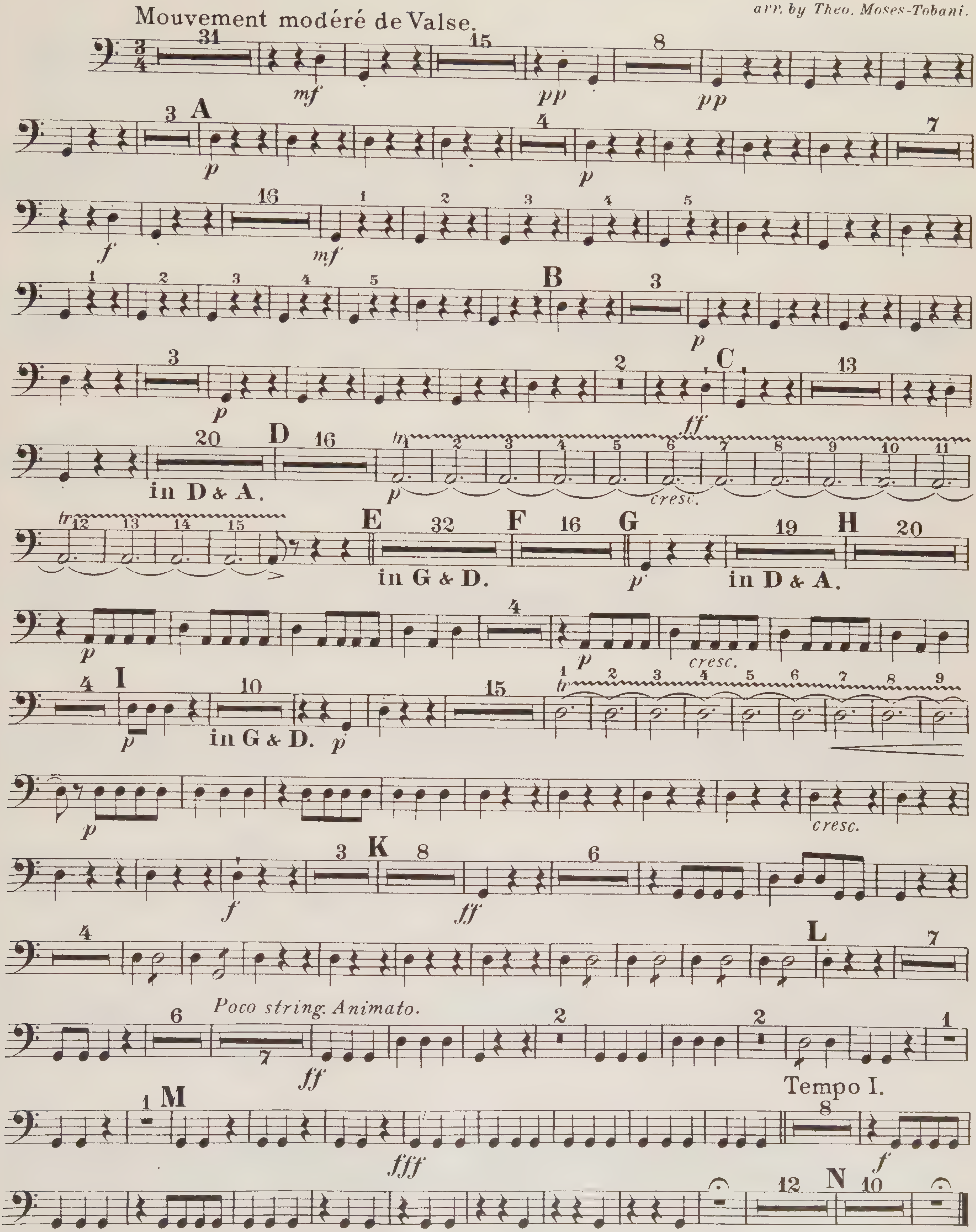
Timpani, Triangle



Timpani in G & D

"Danse Macabre"

C. Saint-Saëns.
arr. by Theo. Moses-Tobani.

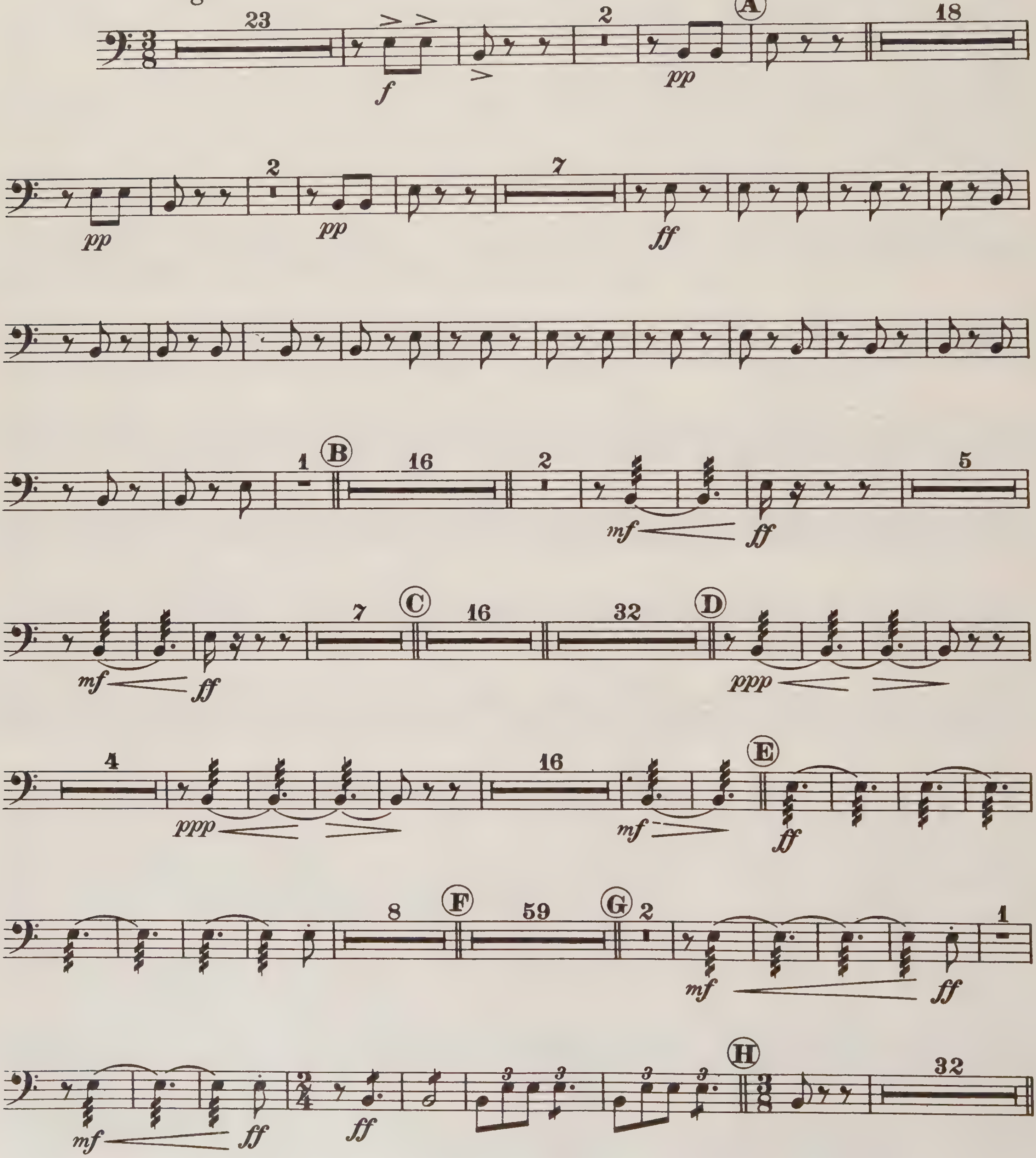


España Rhapsodie.

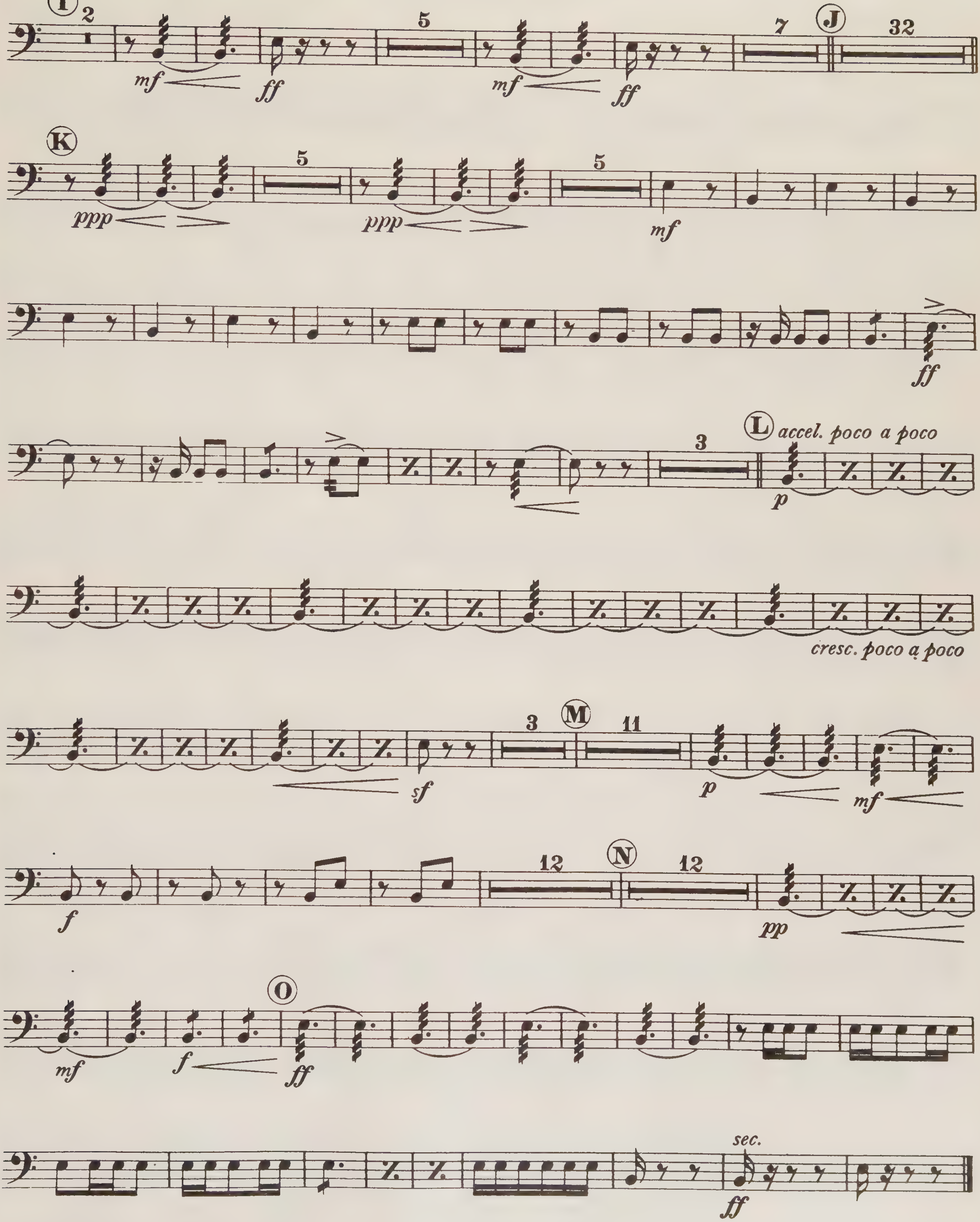
Timpani in E♭ & B♭

Em. Chabrier.
arr. by V. F. Safranek.

Allegro con fuoco.



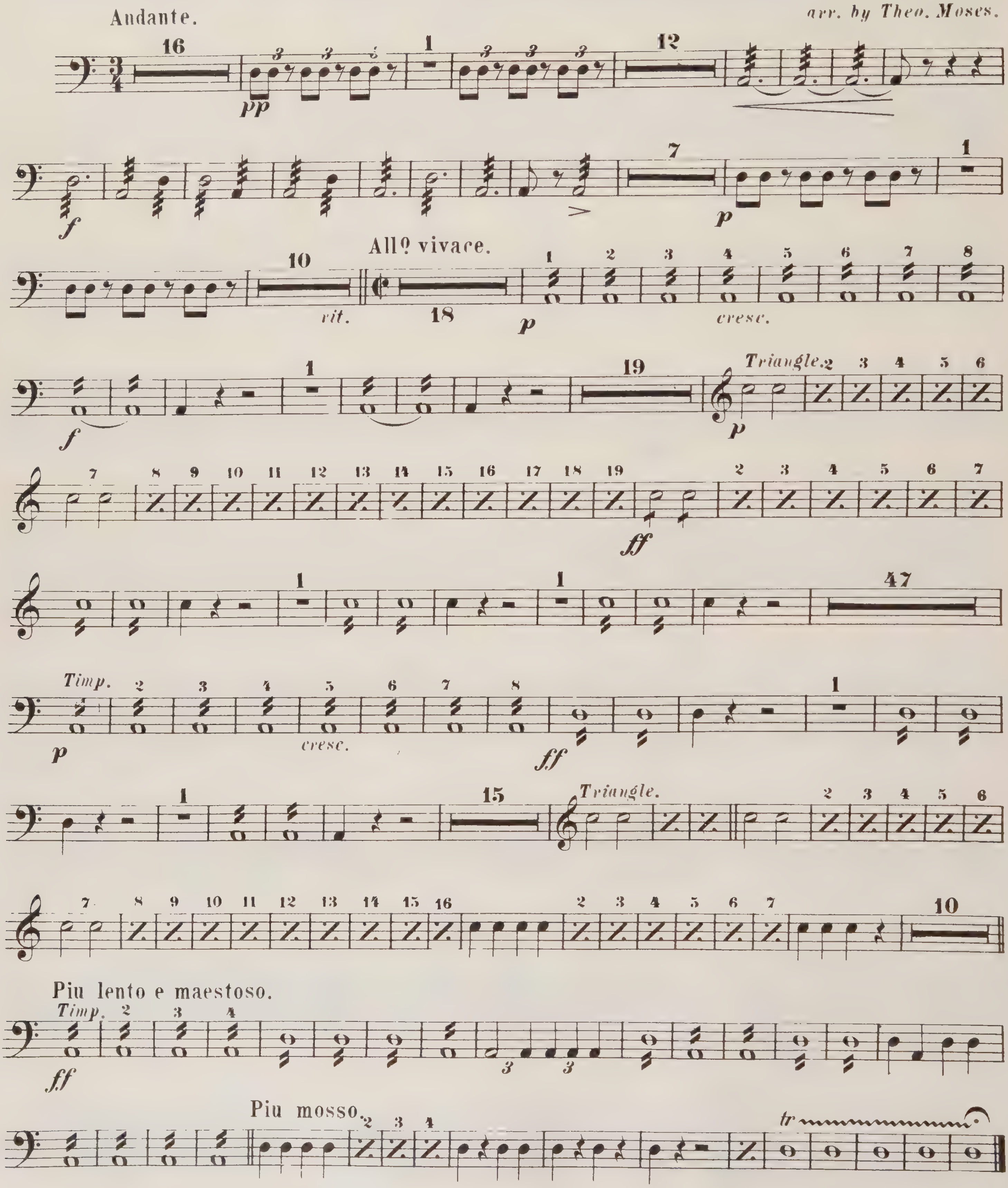
Timpani in E♭ & B♭



Stradella - Overture

Timpani in D-A

F. v. Flotow.
arr. by Theo. Moses.

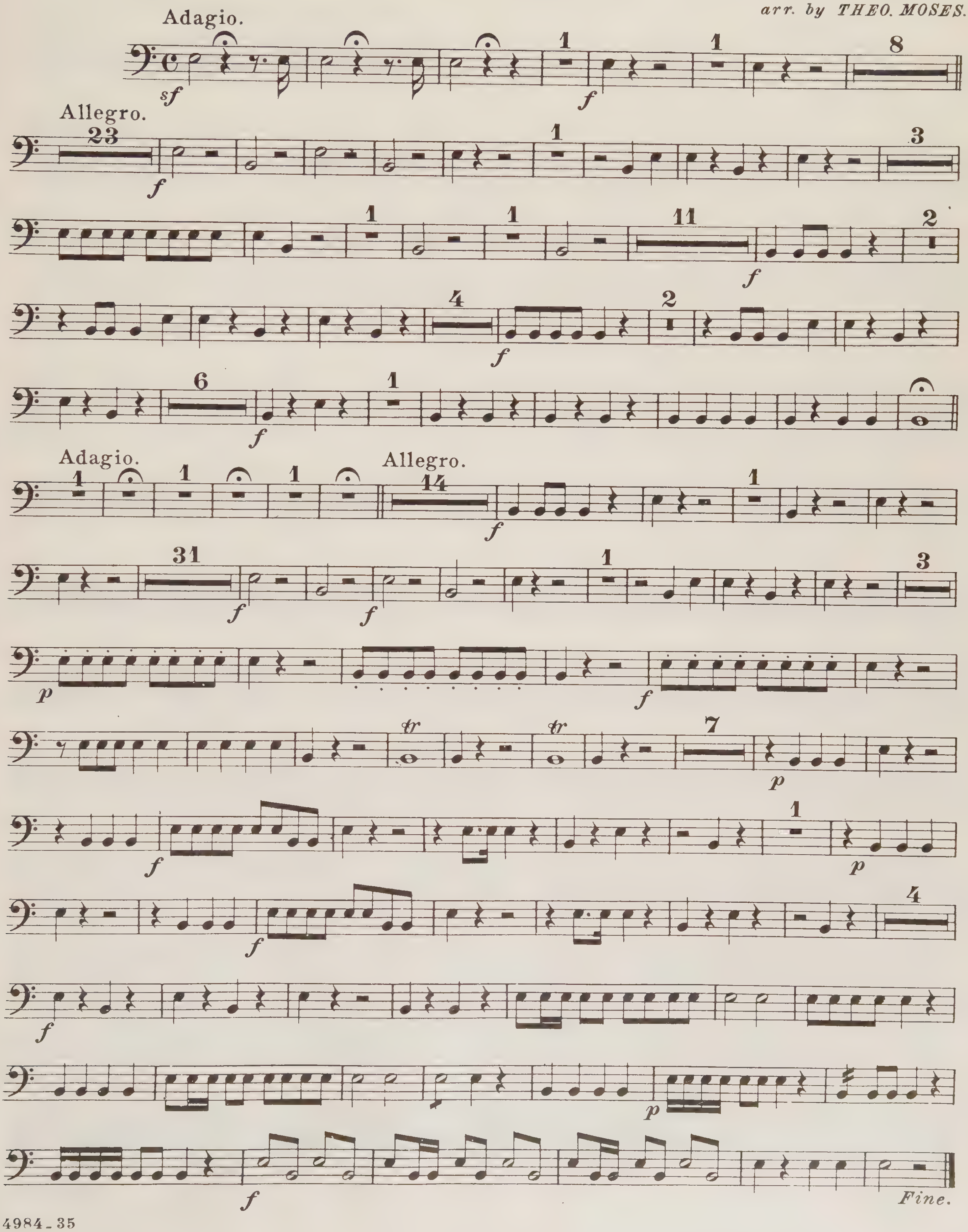


"THE MAGIC FLUTE."

OVERTURE.

TIMPANI in E♭ & B♭

W. A. MOZART.
arr. by THEO. MOSES.

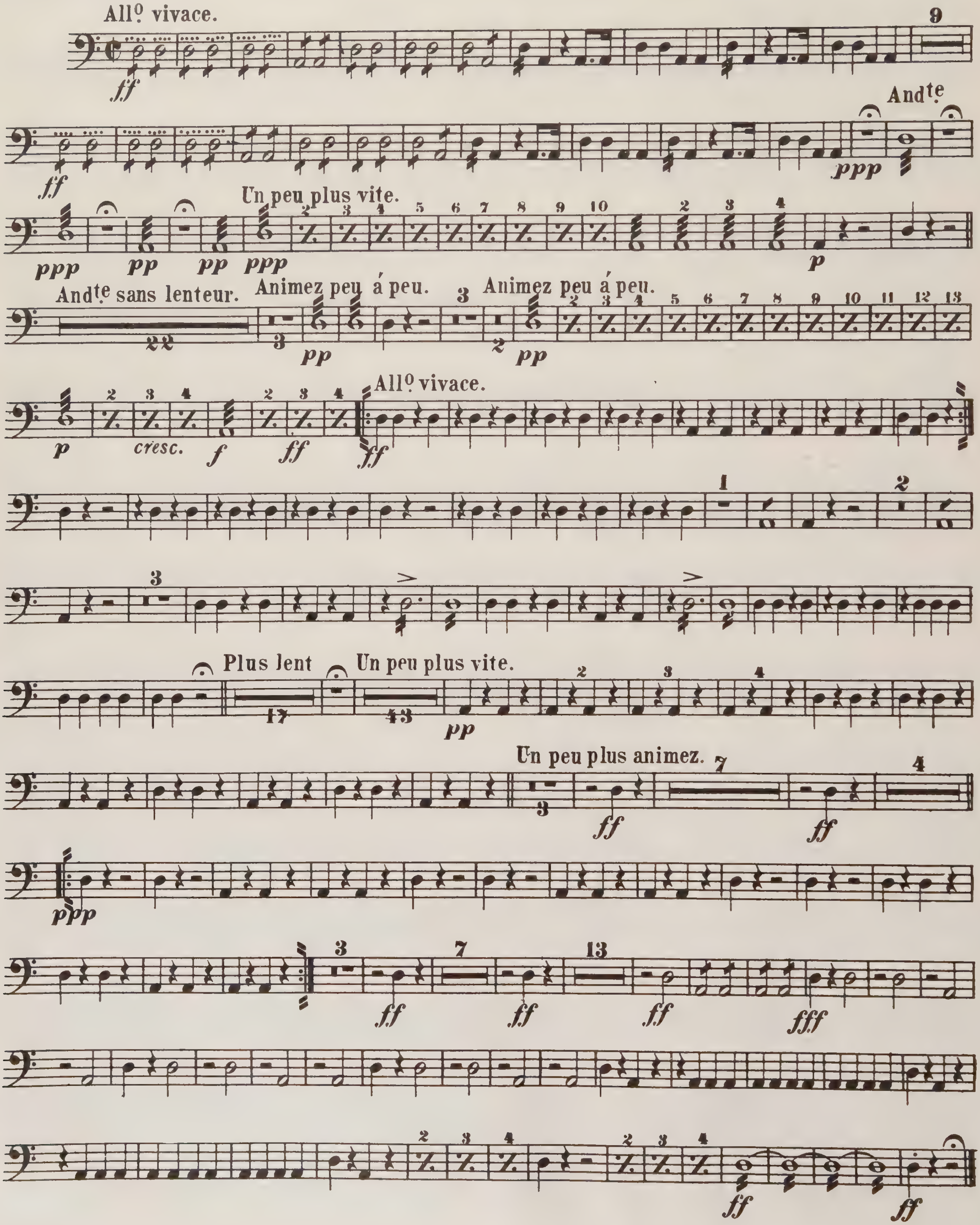


ZAMPA.

Overture.

Timpani in D & A

F. HEROLD.
arr. by Theo. Moses.



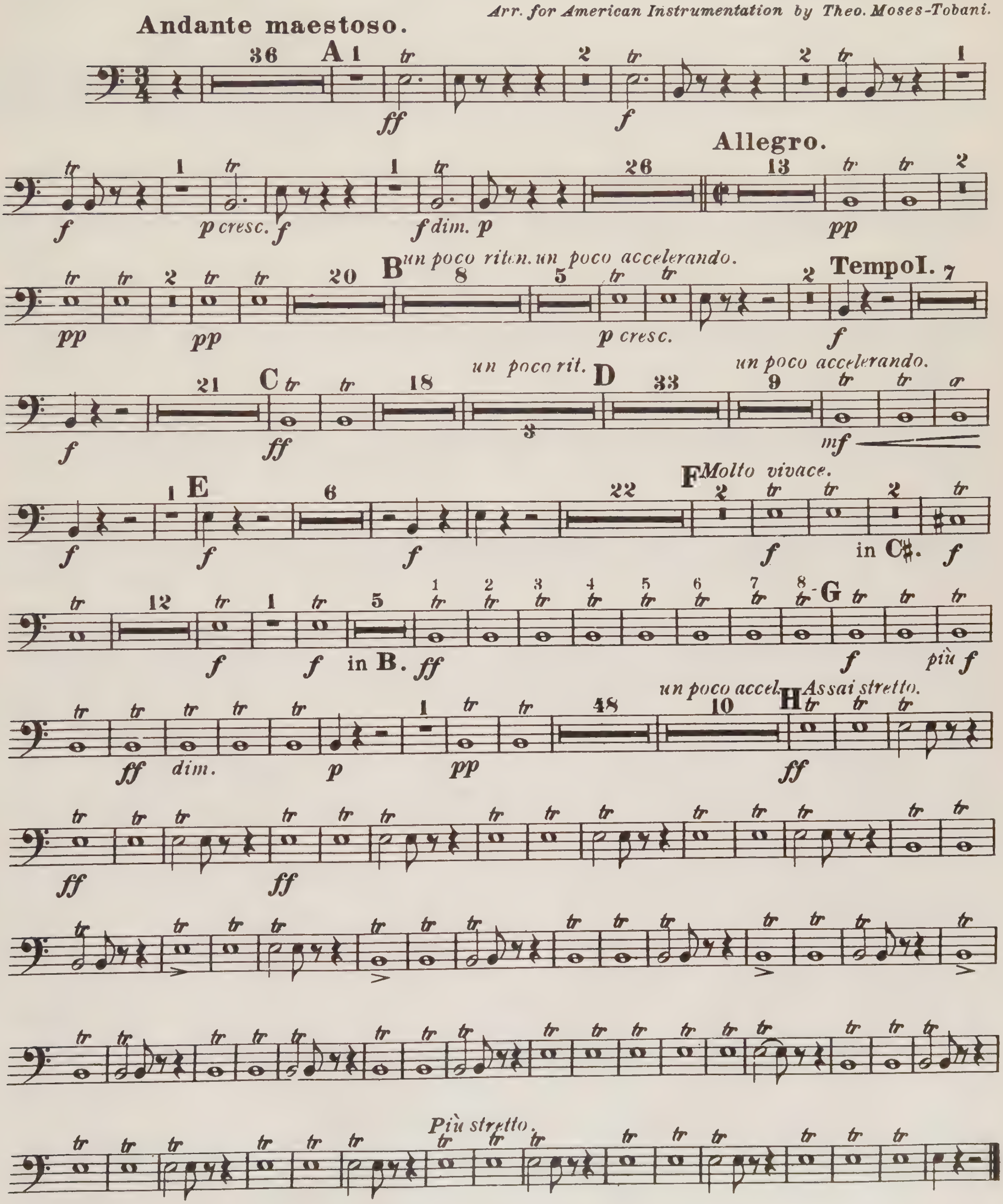
"Tannhäuser"

Overture.

Timpani in E & B

RICHARD WAGNER.

Arr. for American Instrumentation by Theo. Moses-Tobani.

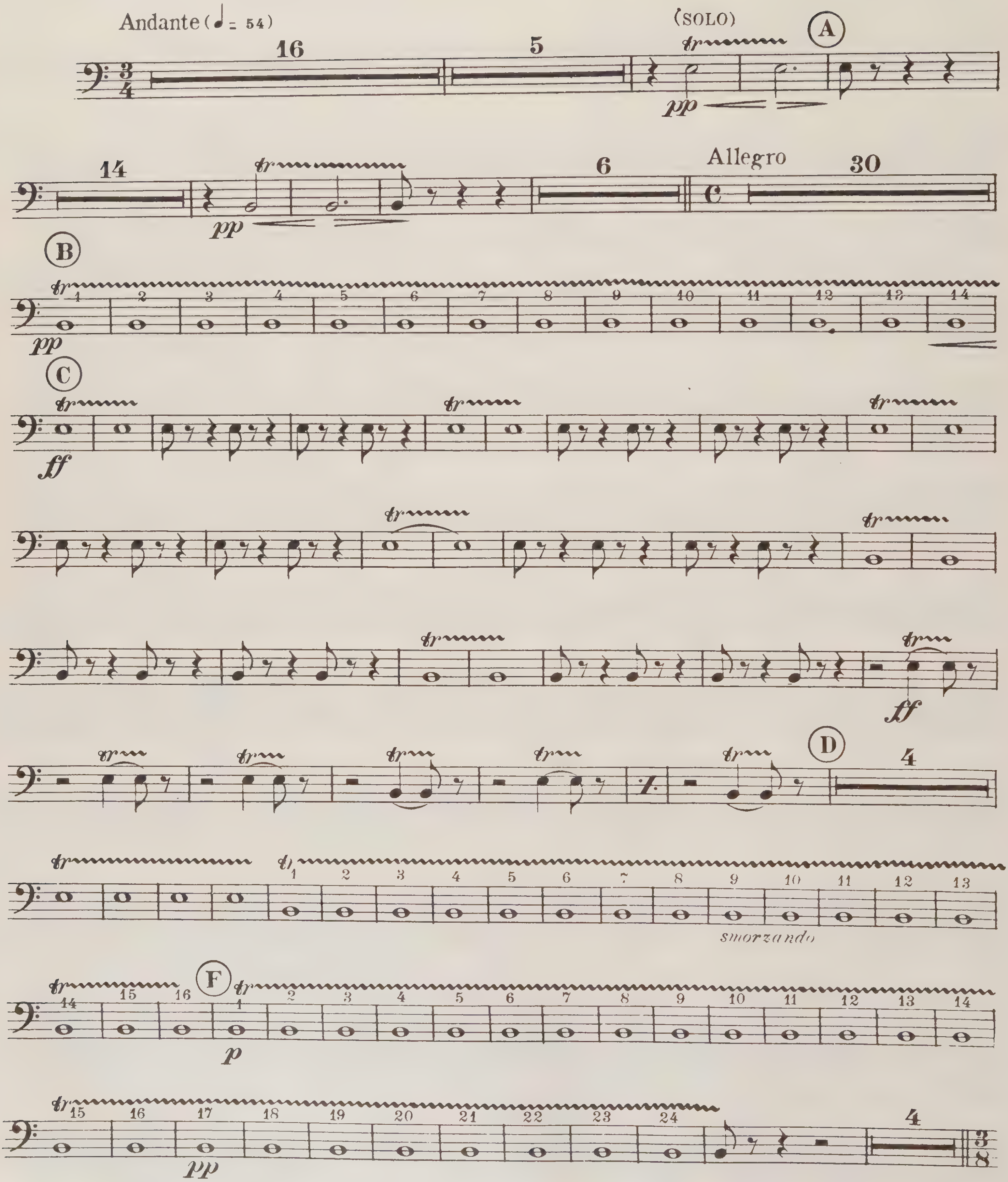


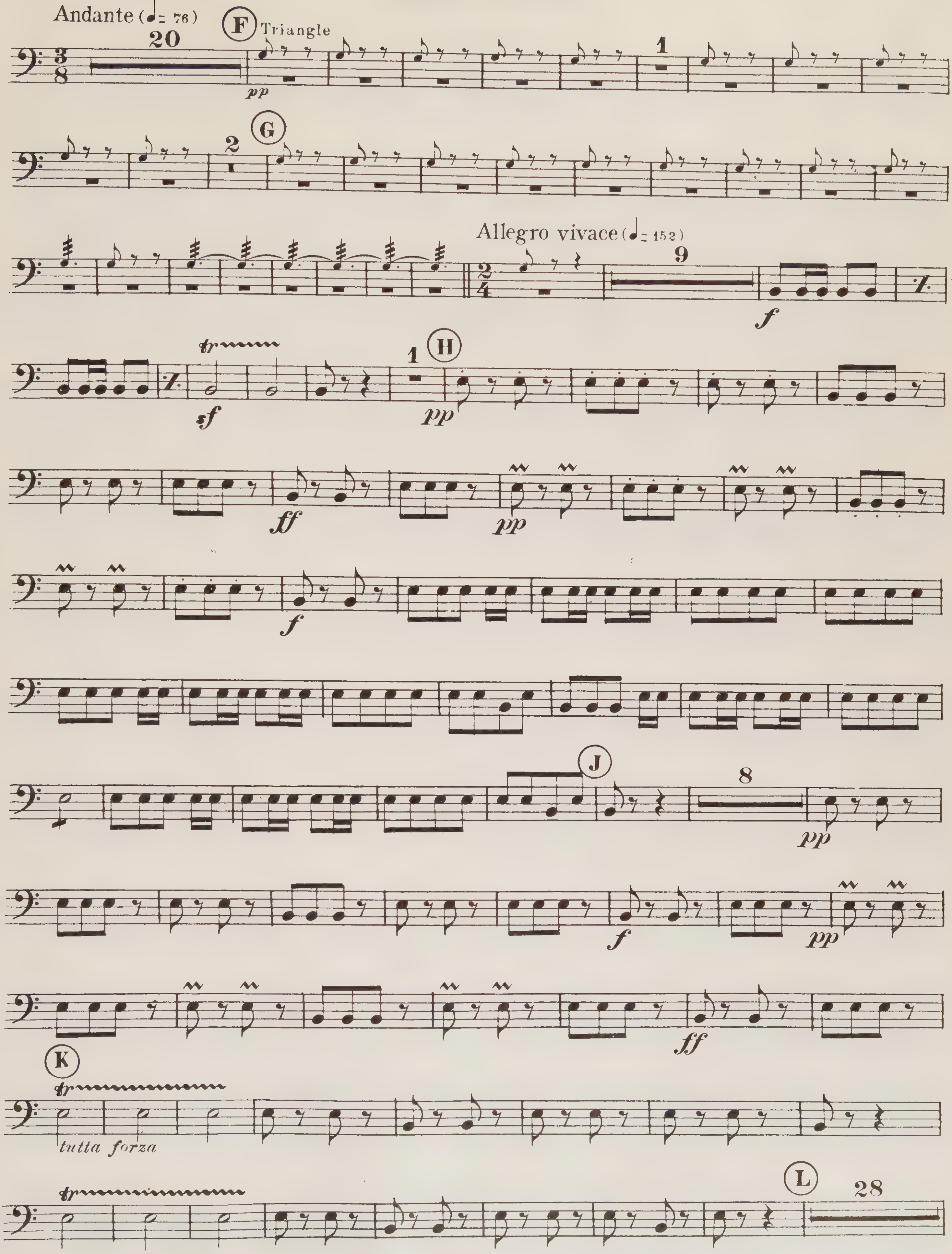
William Tell

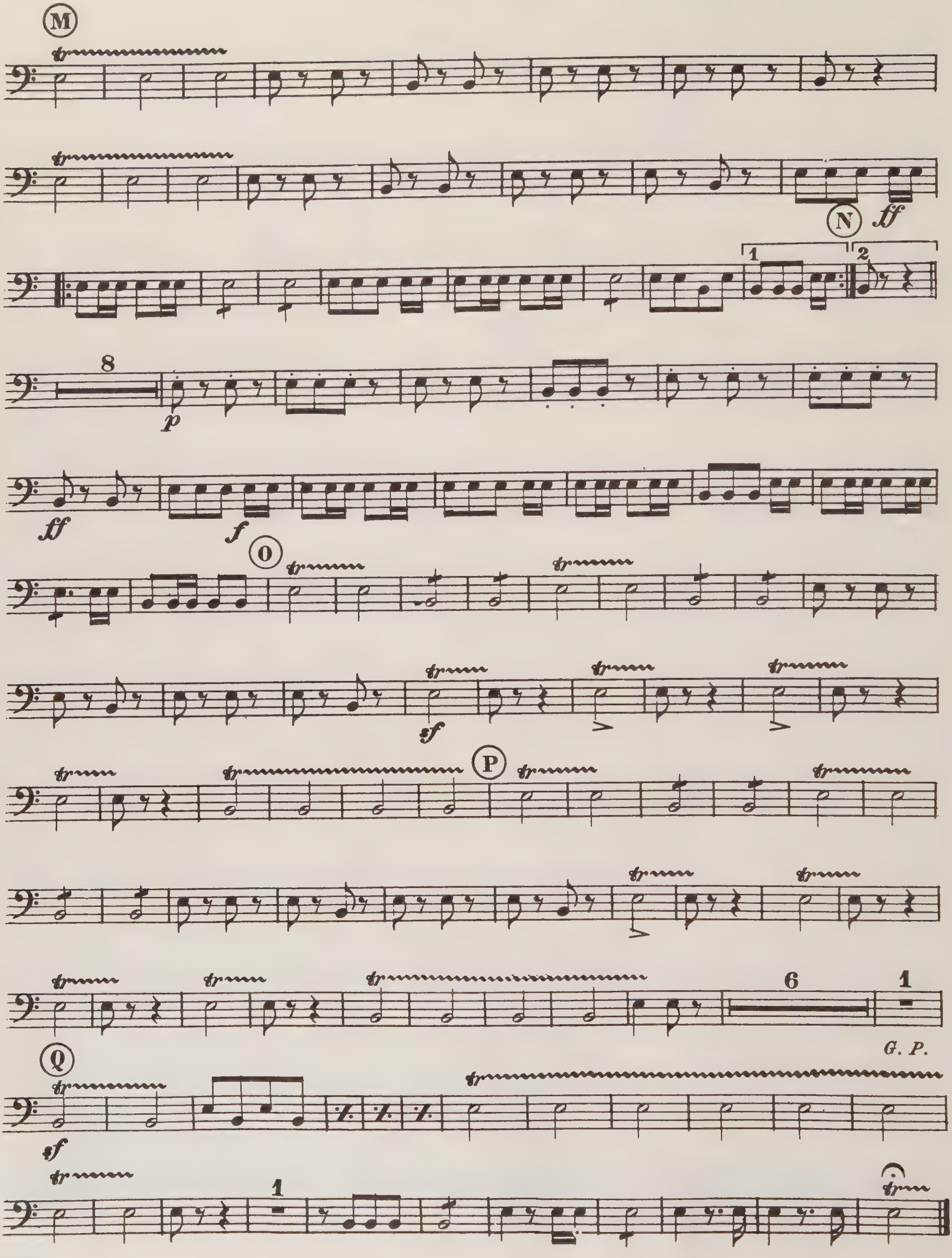
Overture

Timpani in E & B

G. Rossini




Andante (♩= 76)
20
F
Triangle
pp
1
G
2
Allegro vivace (♩= 152)
9
f
tr
sf
1
H
pp
ff
pp
f
J
8
pp
f
pp
ff
K
tr
tutta forza
tr
L
28


M
tr
N
ff
1
2
8
p
ff
f
O
tr
sf
P
6
1
G. P.
Q
sf
tr
1

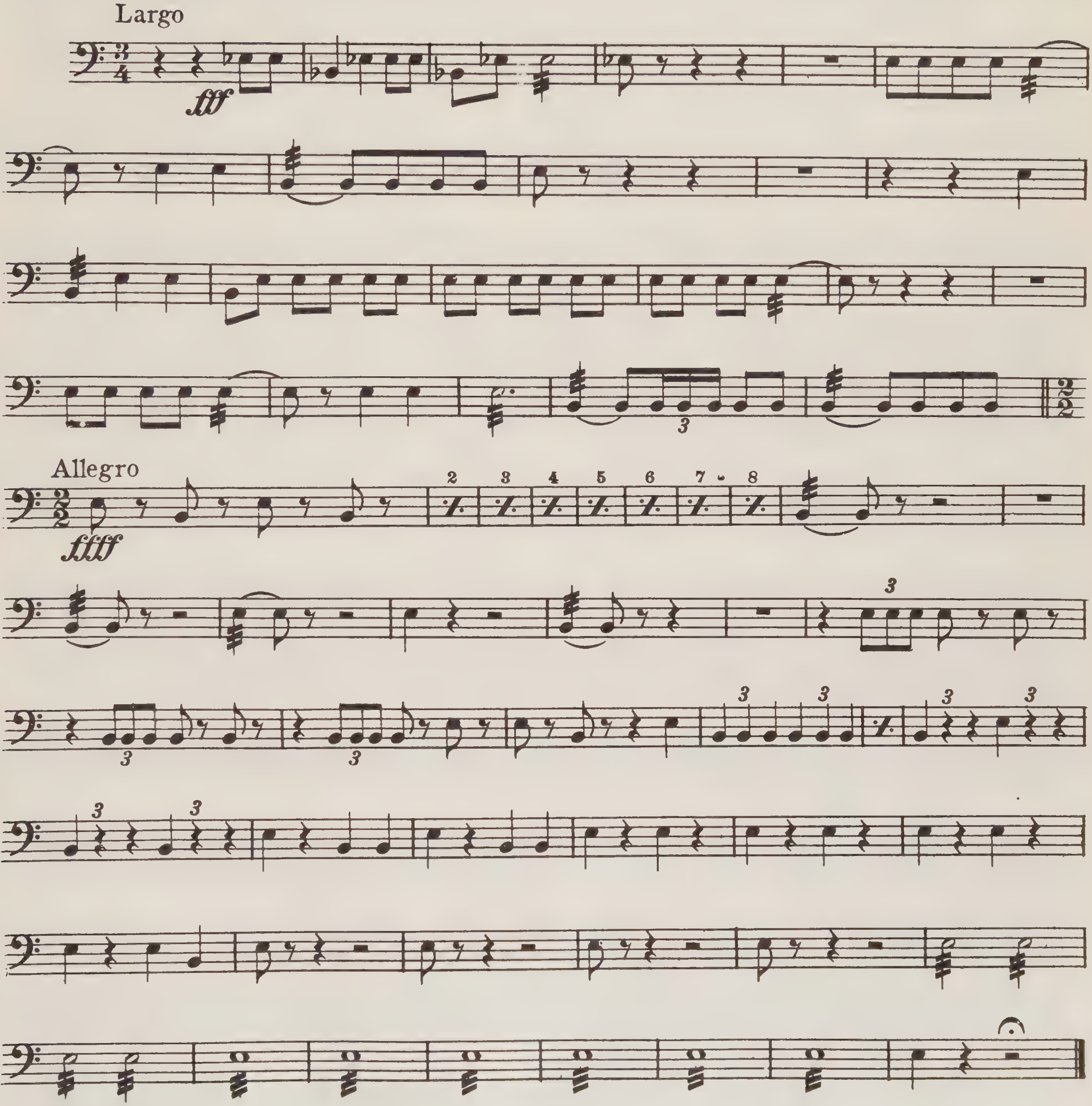
Closing Movements of

1812

Overture Solennelle

Timpani in E♭ & B♭

P. TSCHAIKOWSKY, Op. 49.



The following quotation of the *Finale* from Liszt's *Mazeppa* shows an arrangement for military band; hence the key differs from the original. The timpani are tuned in D and A in the original.

Timpani in C & G

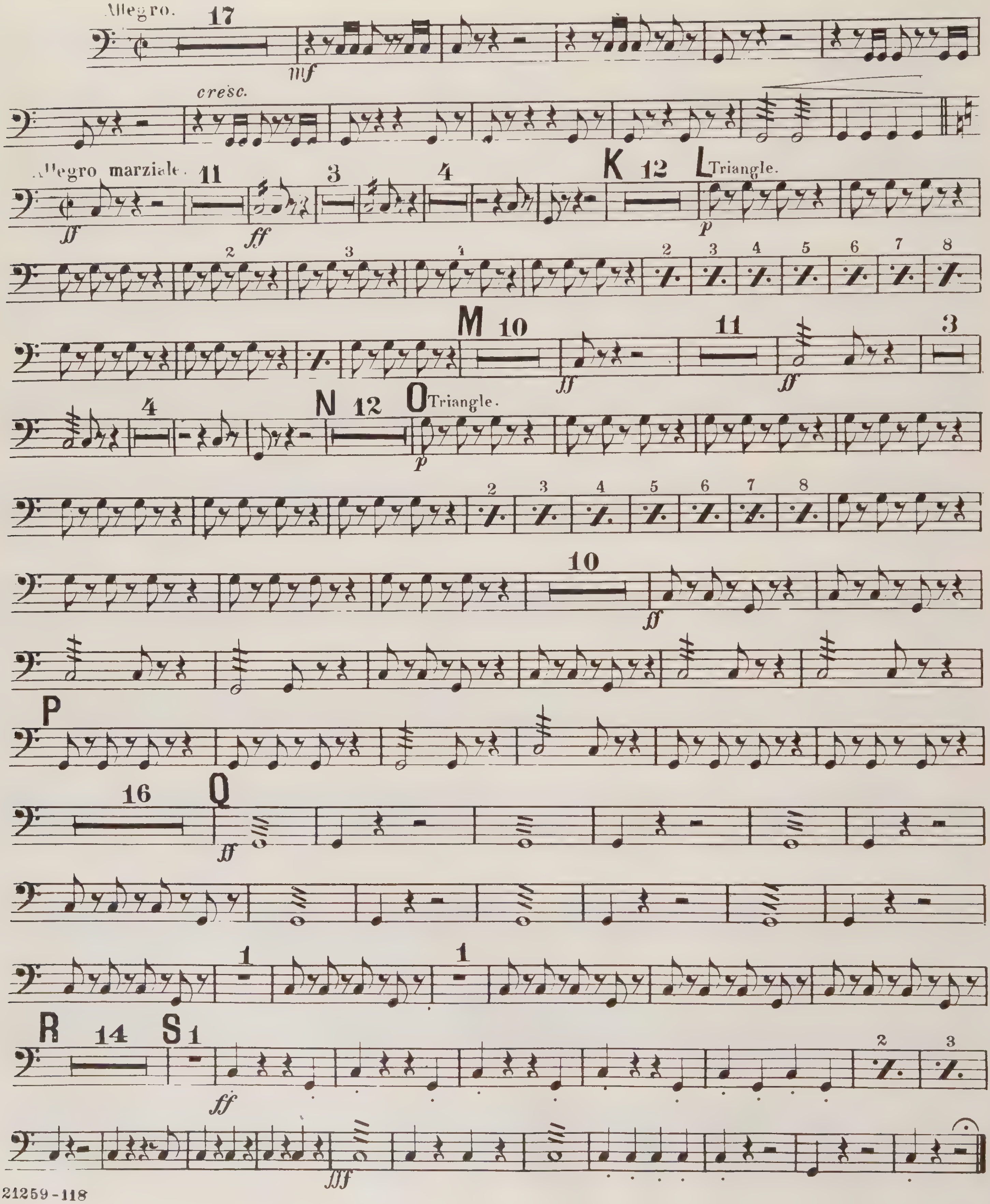
FINALE FROM SYMPHONIC POEM,

MAZEPPA

Note: In absence of Timpani, play *ff* on Snare Drum.

Especially arranged for Gilmore's Band
by J. B. KINDIG.
Revised by Gus. Guentzel.

F. LISZT.
New Revised Edition



Two Extracts from

Danse Bacchanale

from the Opera

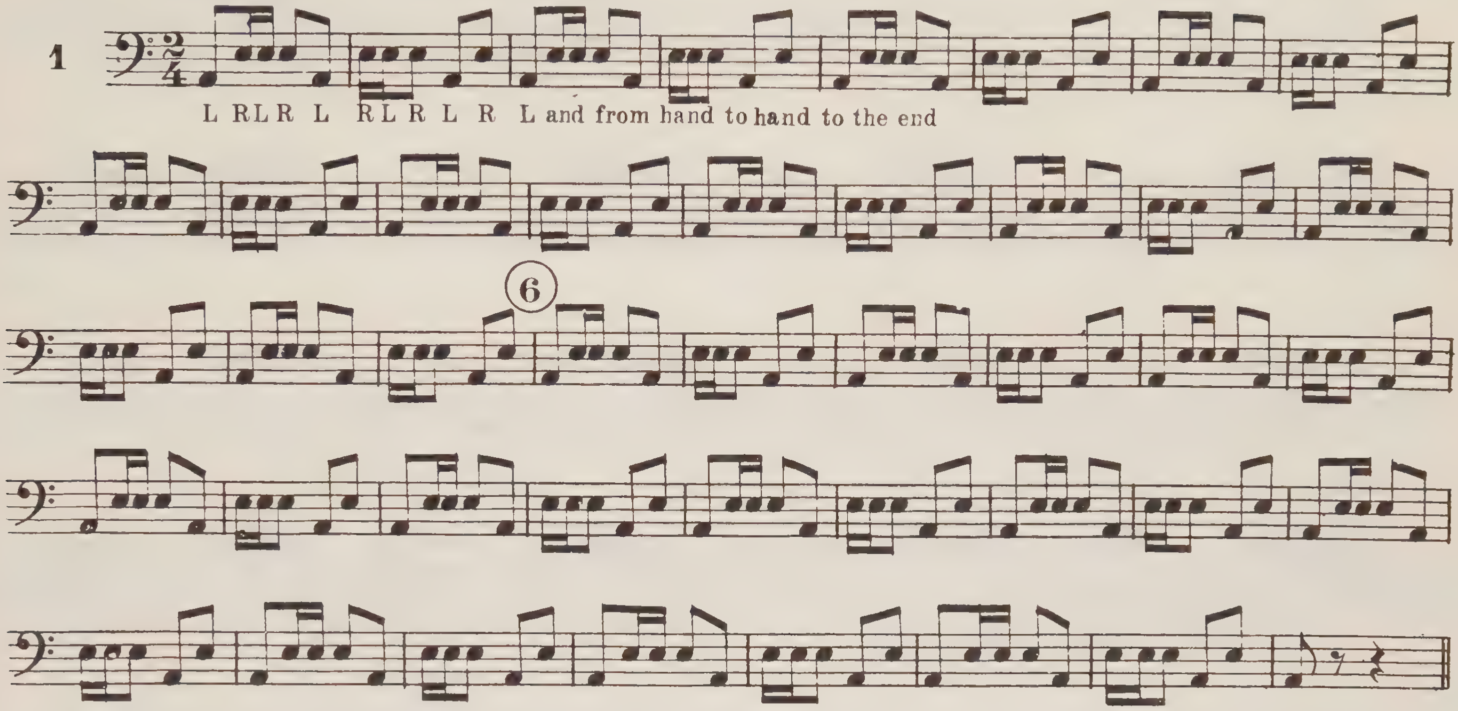
Samson and Delilah

Timpani in E & A

105th measure of the Allegro moderato

C. Saint-Saëns

1

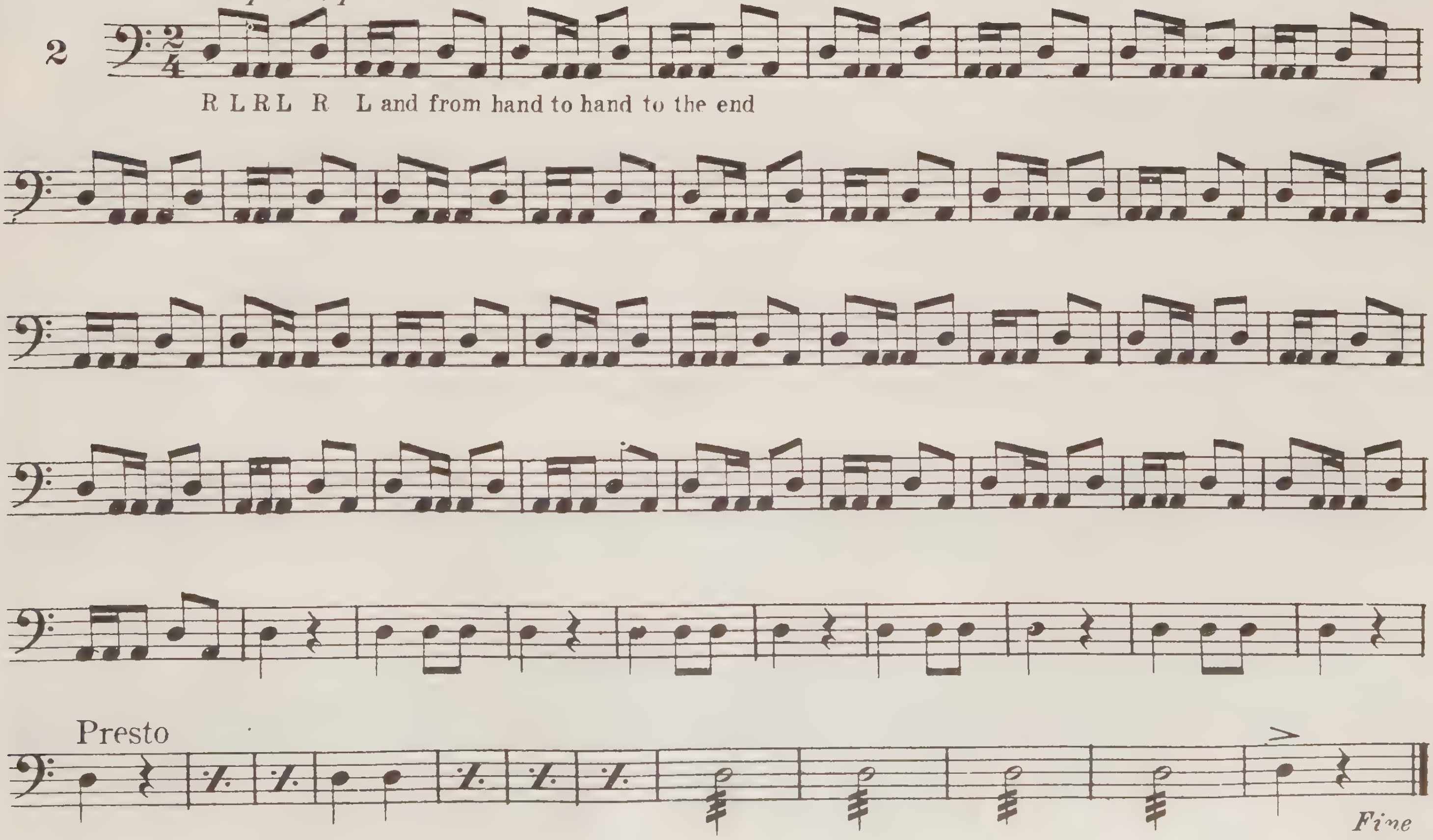


In D & A

Closing Tempo

Di più in più animato

2



Airs de Danse

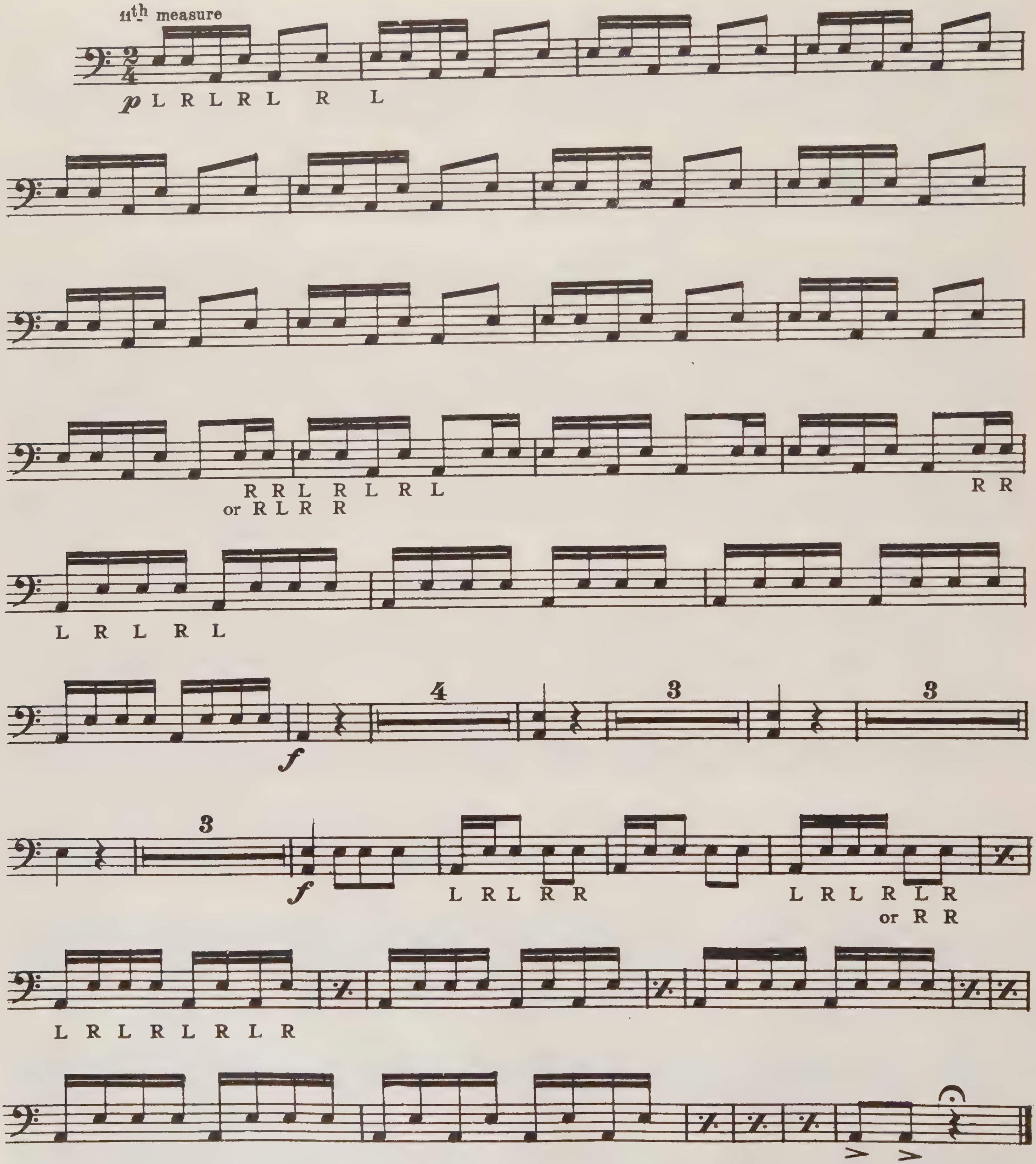
No. 8^{d} Act 2 of the Opera

Lakme

(From the manuscript score in the Allan A. Brown Collection)

Leo Delibes

Timpani in A & E



The Form of the Symphony

In order that the student may better understand the quotations of symphonies which follow, a general explanation of this form of composition is given.

A symphony usually consists of four movements each of which is complete in itself, but all of which bear more or less relationship to each other. The movements of a symphony are commonly as follows:

1st movement - Allegro
2nd movement - Slow
3rd movement - Minuet or Scherzo
4th movement - Allegro

The Symphony is not unlike the *Sonata* or the *Concerto.* The former is an ensemble composition for orchestra, whereas the latter two are compositions for solo instruments.

A Symphony differs from a Suite in the following respects: (1) the movements of a Symphony are more complex than those of a Suite, (2) the movements of a typical Suite are of a dance character, whereas the movements of the Symphony (with the exception of the third movement) are not of a dance character, and (3) the Suite is less restricted by formal obligations than the Symphony.

An overture is constructed in a similar form ("Sonata Form") to the first movement of a Symphony. Because of this similarity, we may compare the first movement (and in some cases, other movements) of the Symphony to an Overture. On the other hand, many overtures are freer in form.

Reduced to its strictest and minimum skeleton, the Sonata Form consists of the following:

FIRST MOVEMENT OF THE SYMPHONY
(Sometimes Final Movement)

A (1) "Masculine" Theme
(2) "Feminine" Theme } (Statement) *Mono-Tonality*

B "Development" Both themes "worked out" with more attention given, as a rule, to the Masculine. *Dual Tonality*

C "Recapitulation" (Both themes restated) *Plural Tonality*

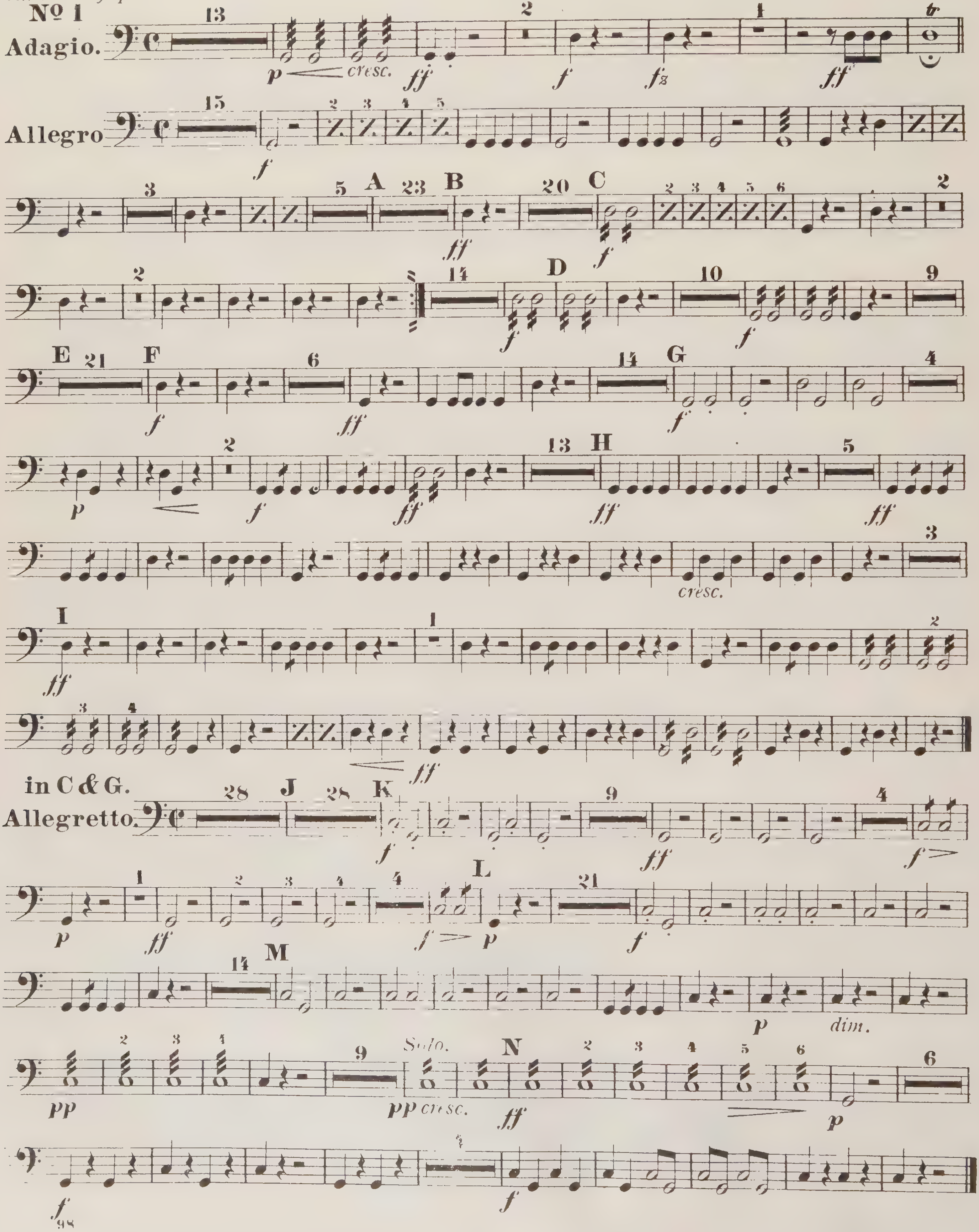
N.B. The modifying terms *dual* and *mono* must not be interpreted too literally, rather are they basic and minimum.

J. Haydn's
"Symphonie Militaire"

Timpani

arr. by Theo. Moses.

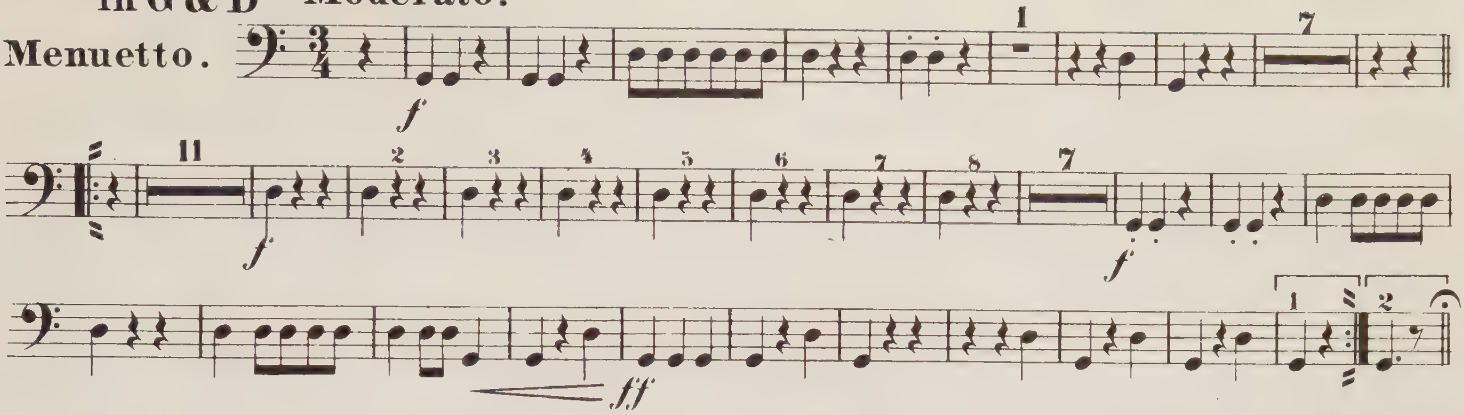
Celebrated Symphonies
No 1



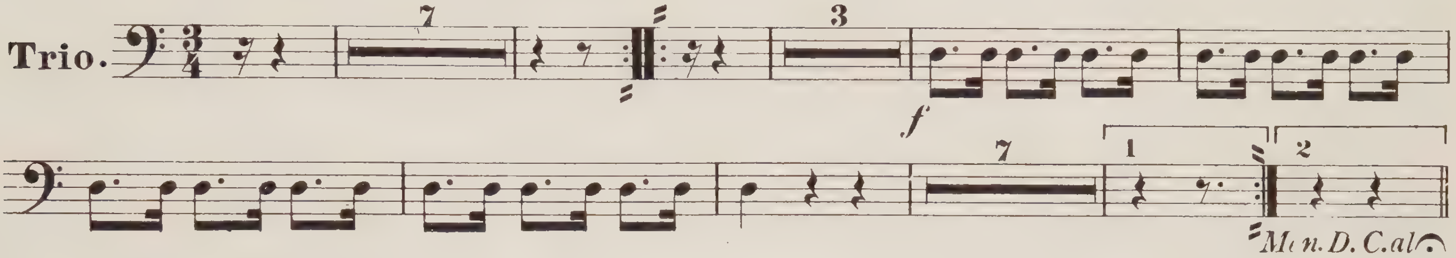
Timpani

in G & D Moderato.

Menuetto.

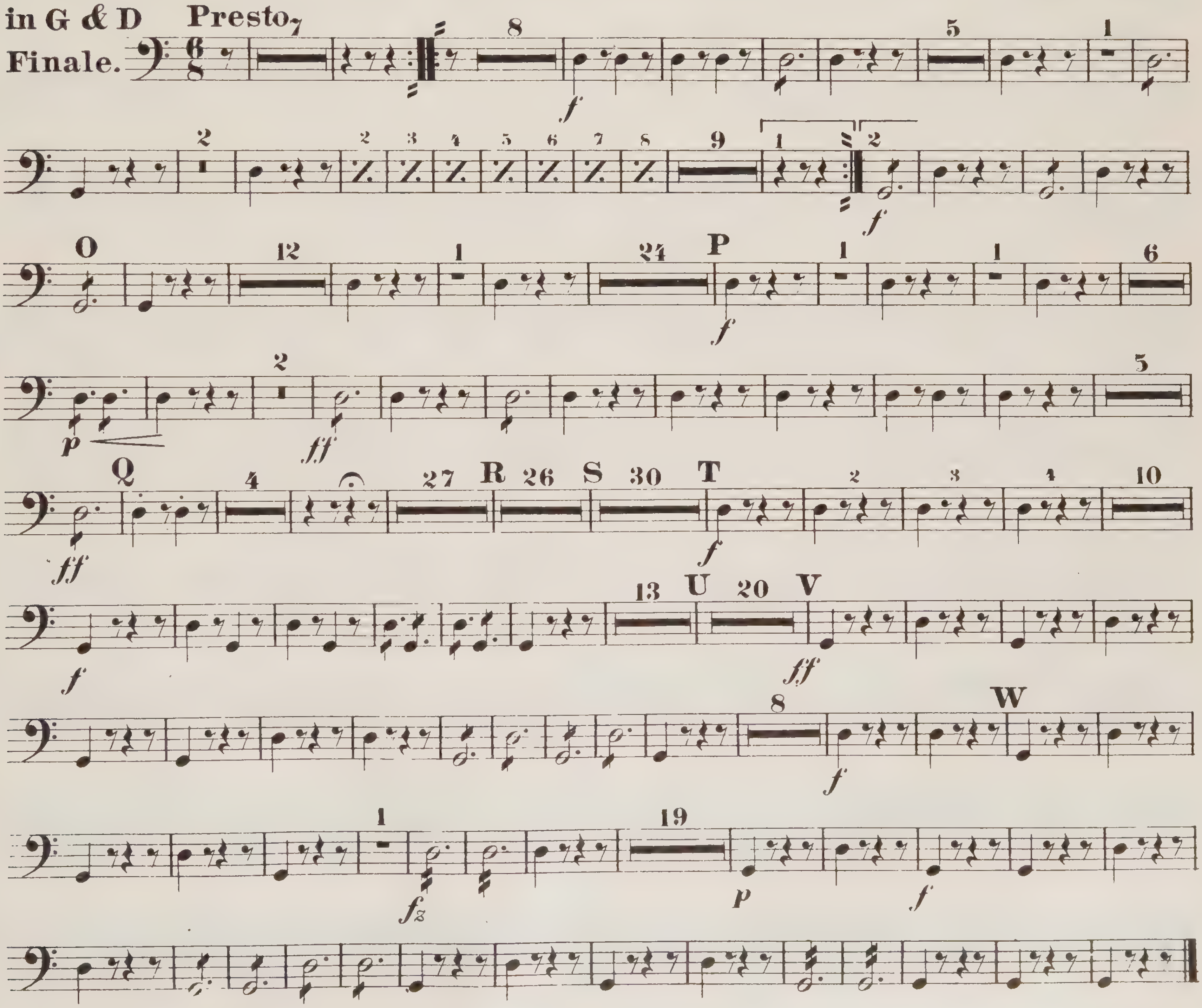


Trio.



in G & D Presto

Finale.



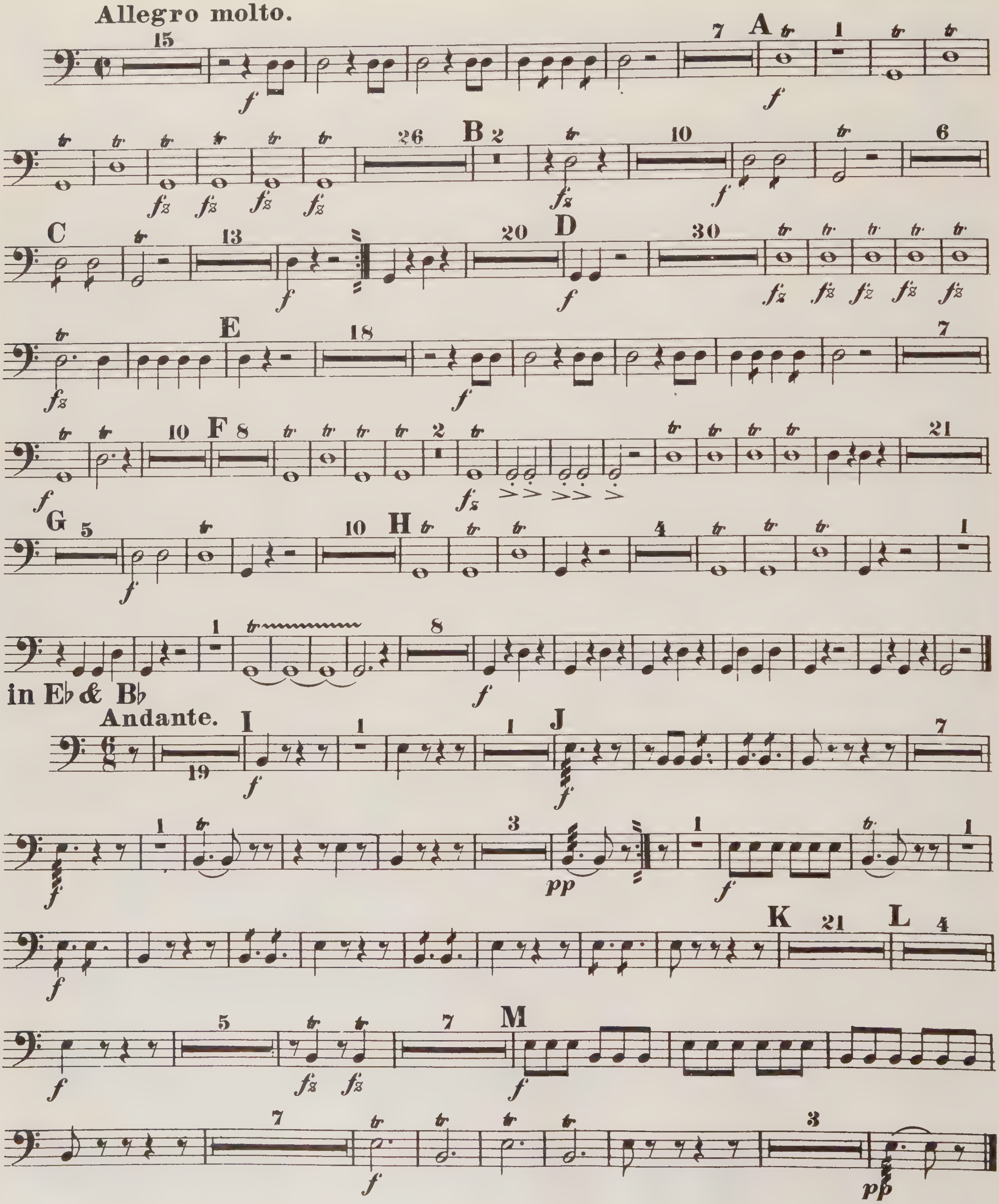
Timpani in G & D

W. A. Mozart's

"G-Minor Symphony"

(Nº 40)

arr. by Theo. Moses.

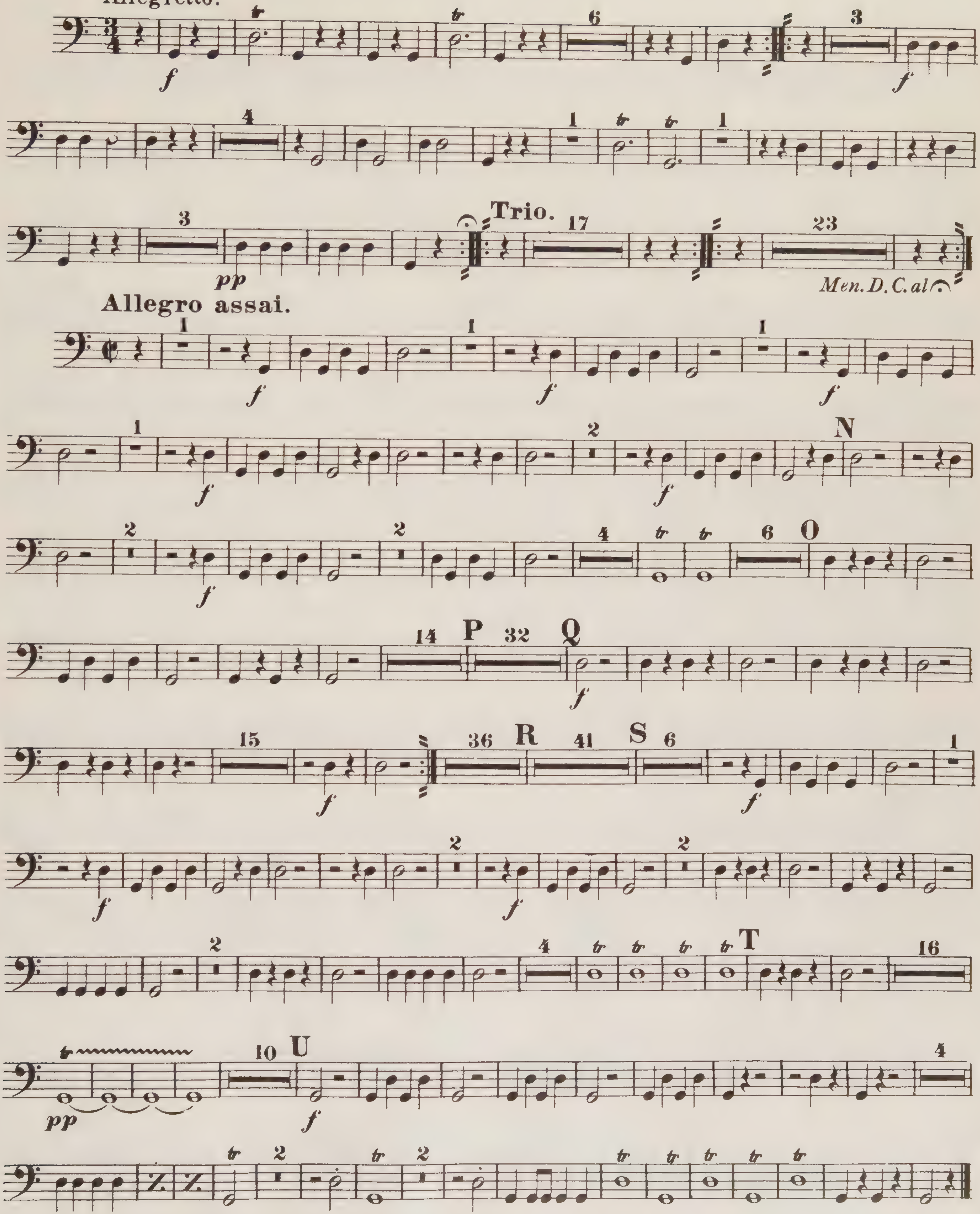


Timpani

in G & D

Menuetto.

Allegretto.

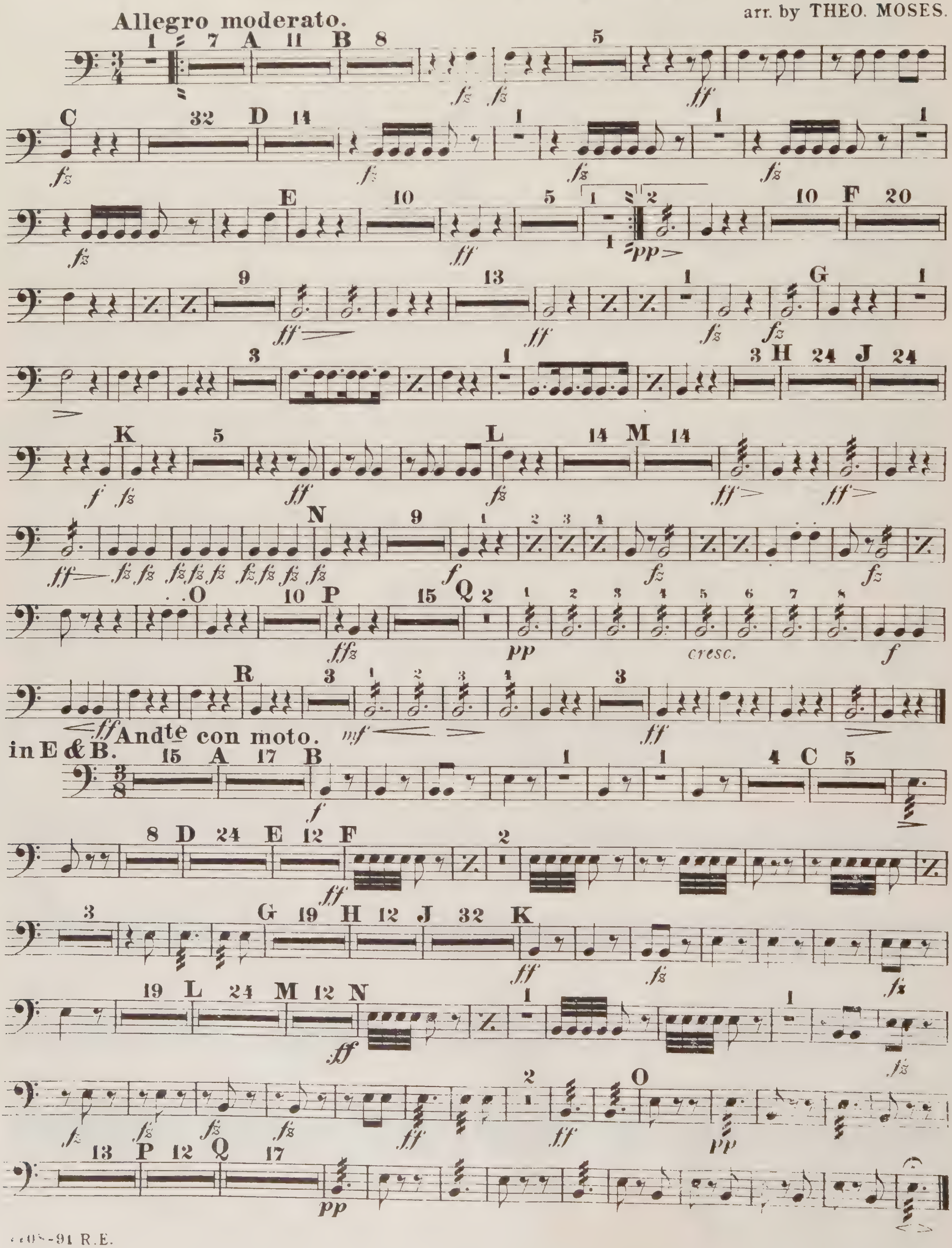


Timpani in B & F♯

F. Schubert's

"Unfinished Symphony"

arr. by THEO. MOSES.

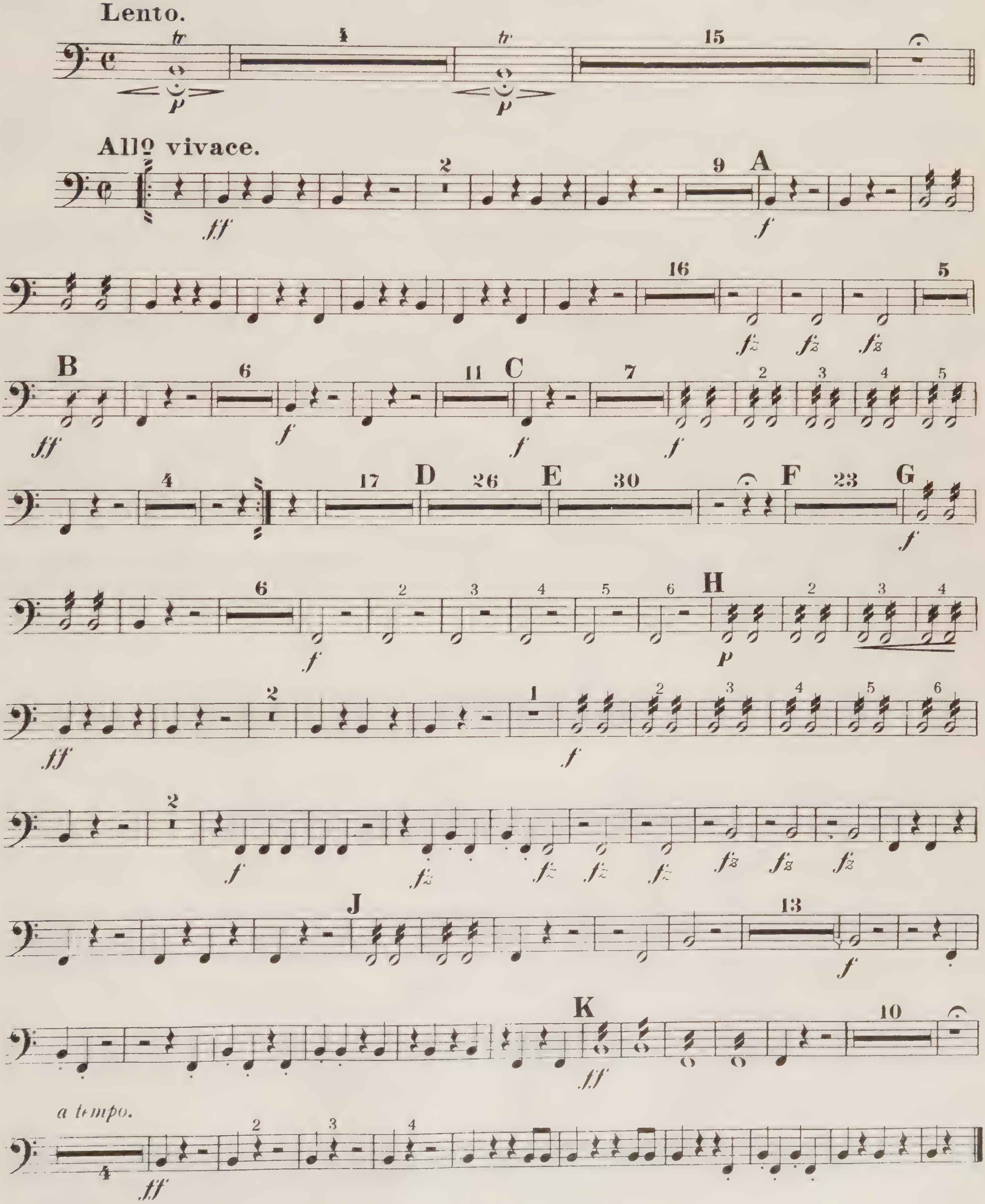


Timpani in B♭ & F

Jos. Haydn's

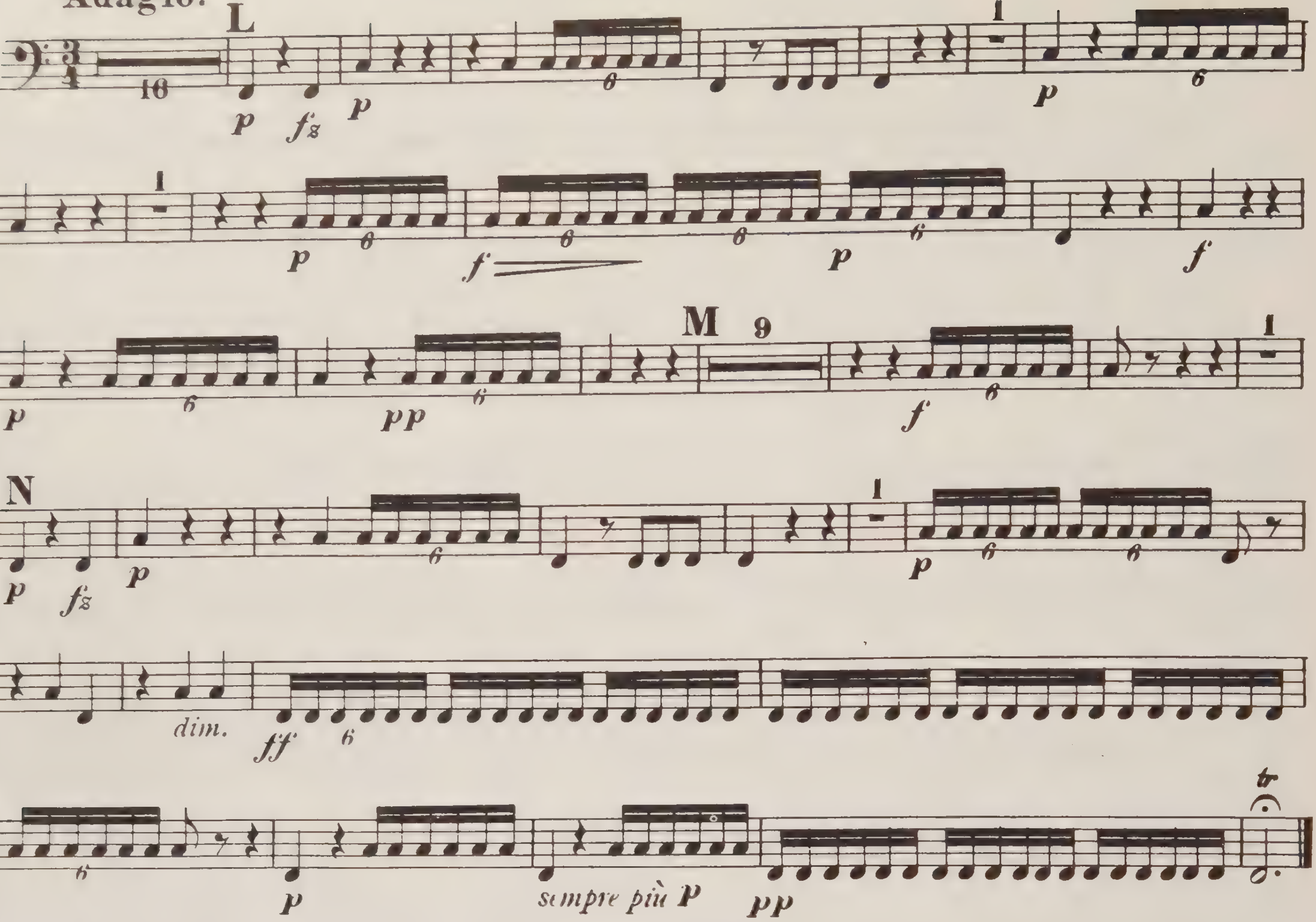
"12th Symphony"

arr. by THEO. MOSES.



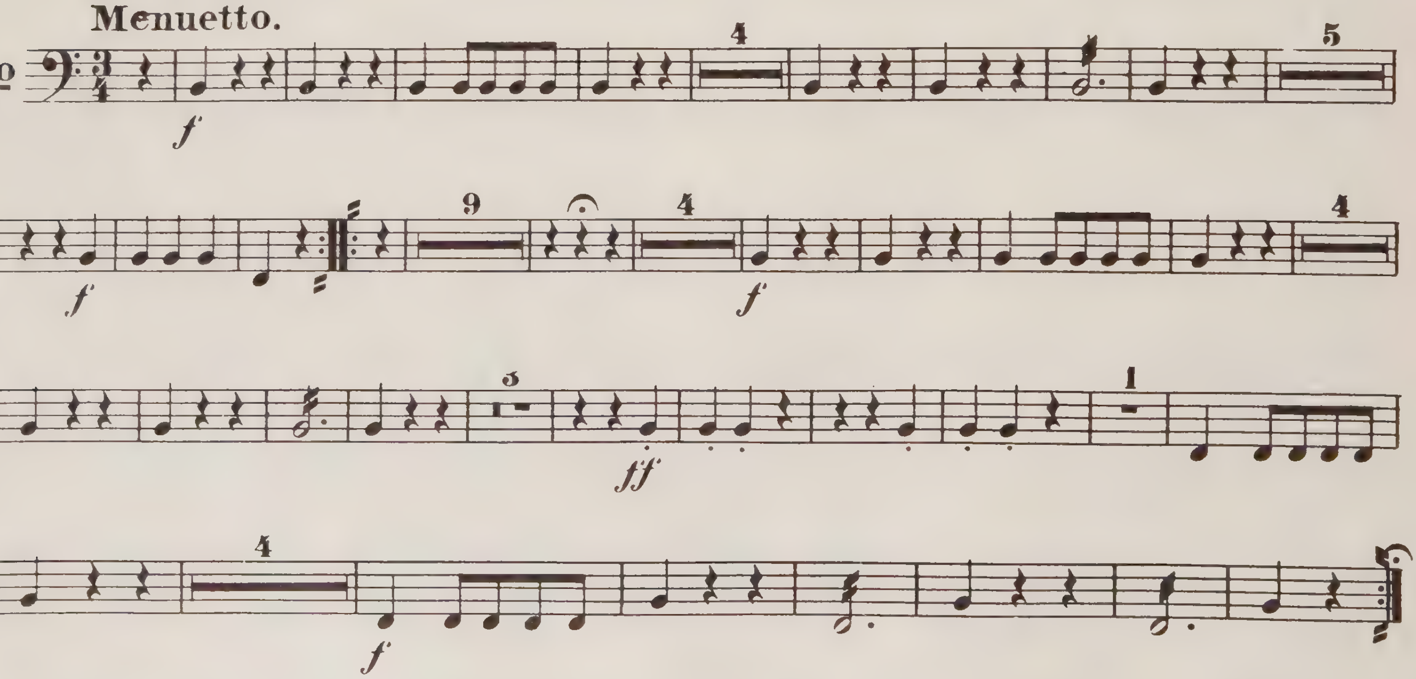
Timpani in B♭ & F

in C & F
Adagio.

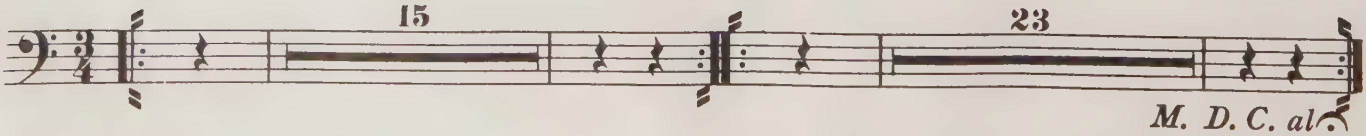


in B♭ & F
Menuetto.

Allo

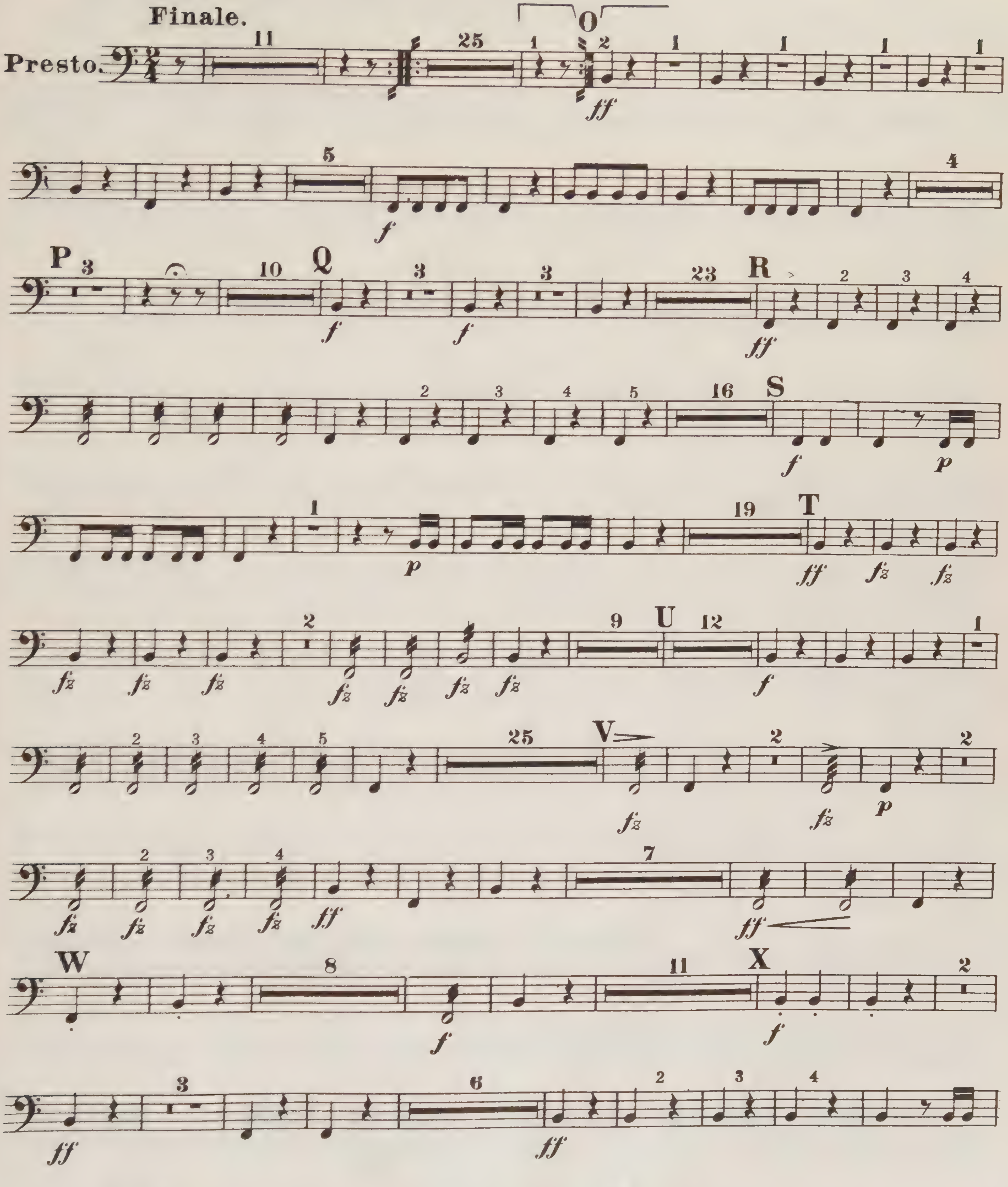


Trio.



M. D. C. al 𝄐

Timpani in B♭ & F



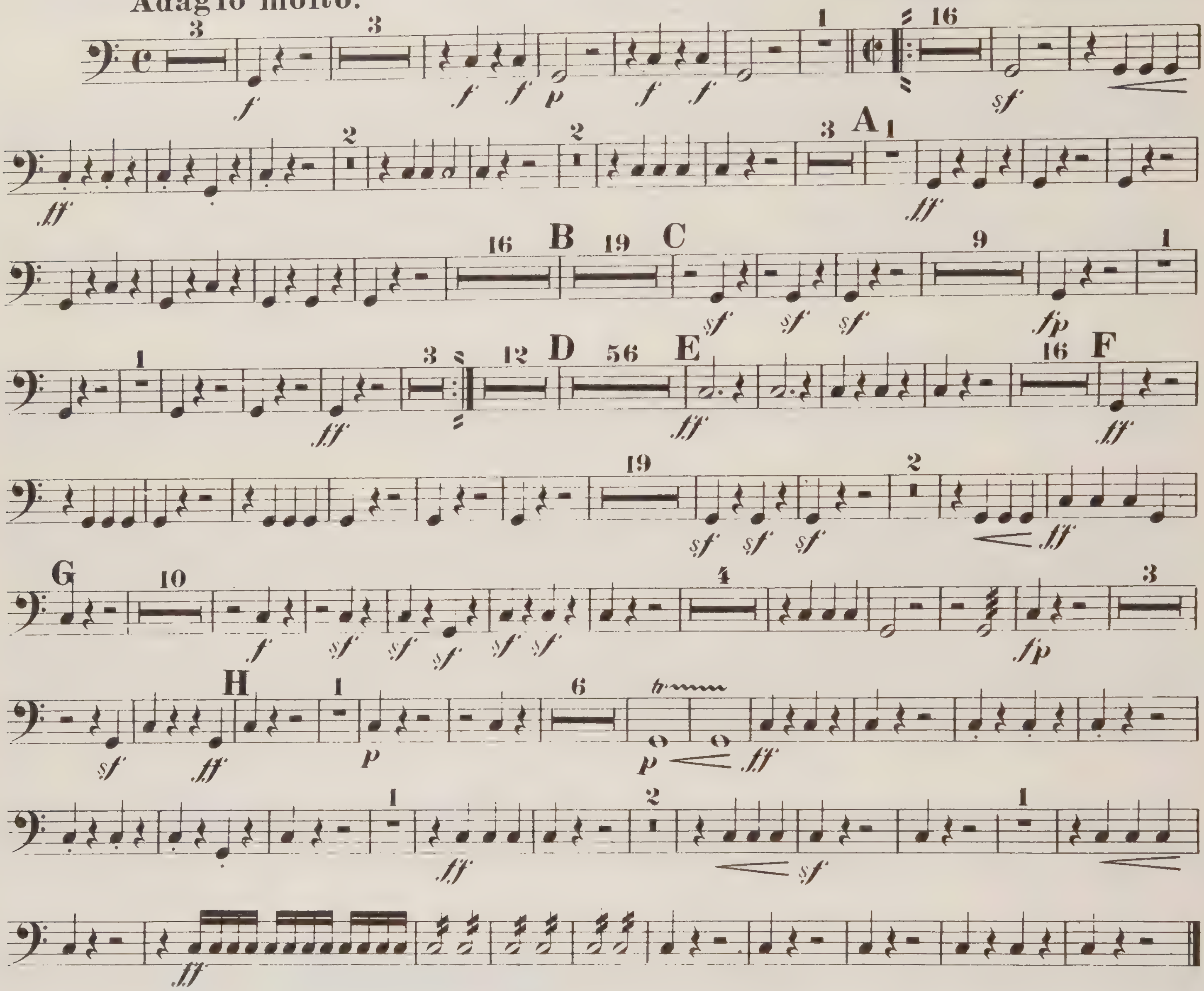
Timpani in C & G

L. van Beethoven's

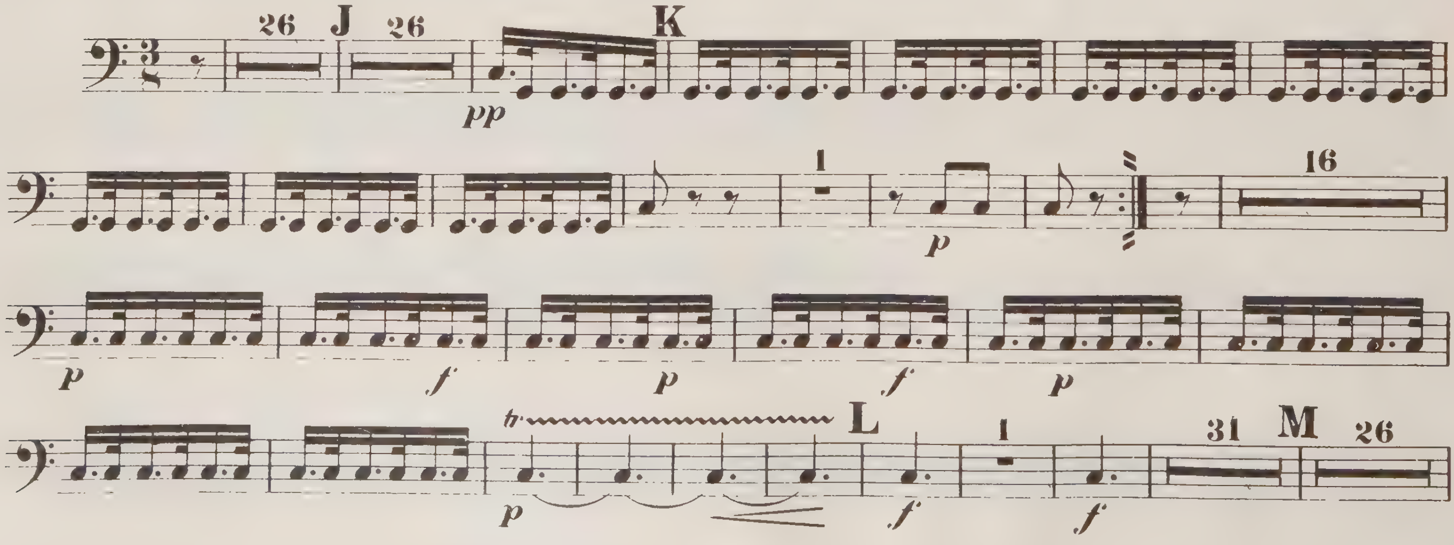
"First Symphony"

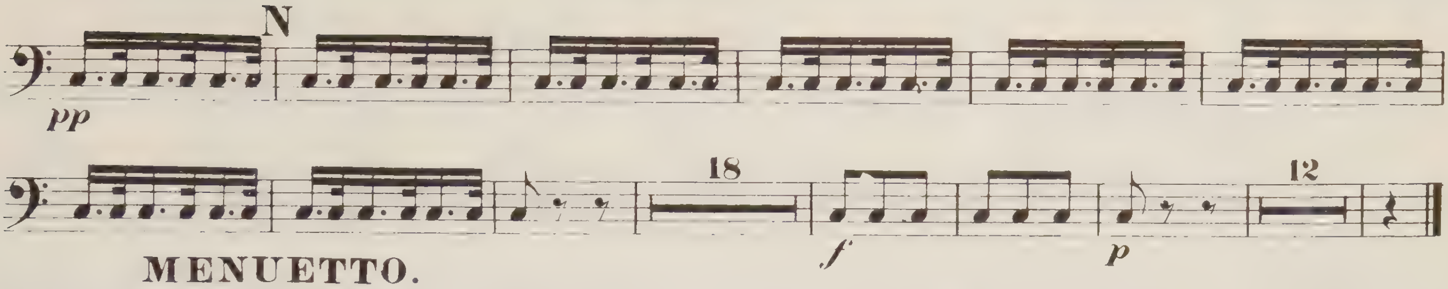
arr. by THEO. MOSES.

Adagio molto. **Allegro con brio.**

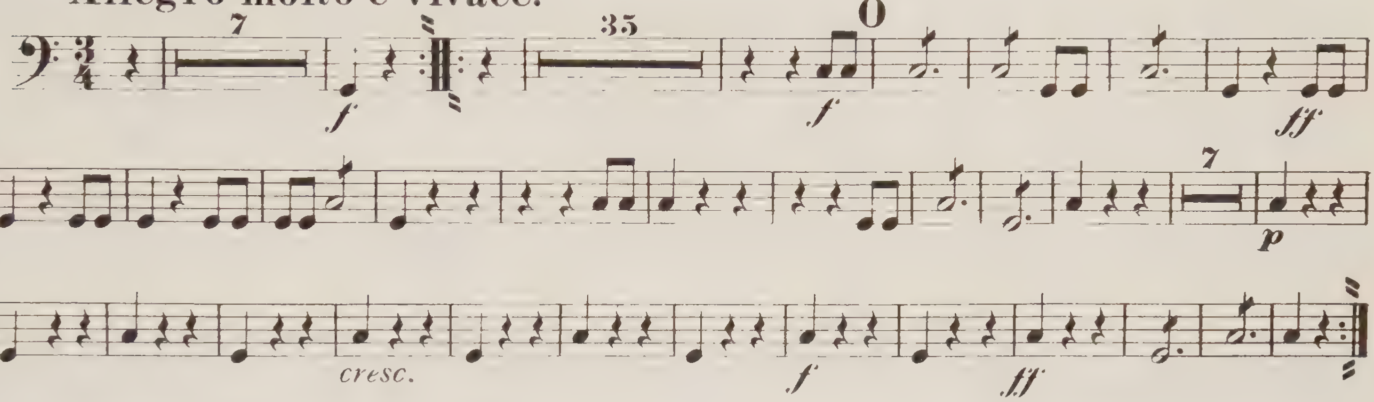


Andante cantabile con moto.

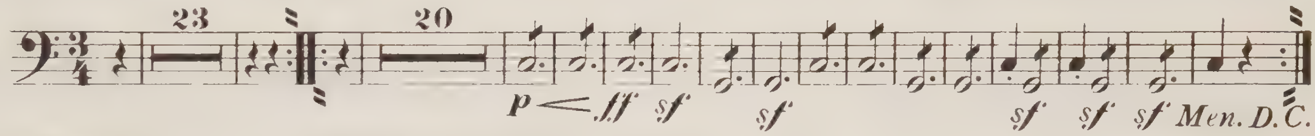




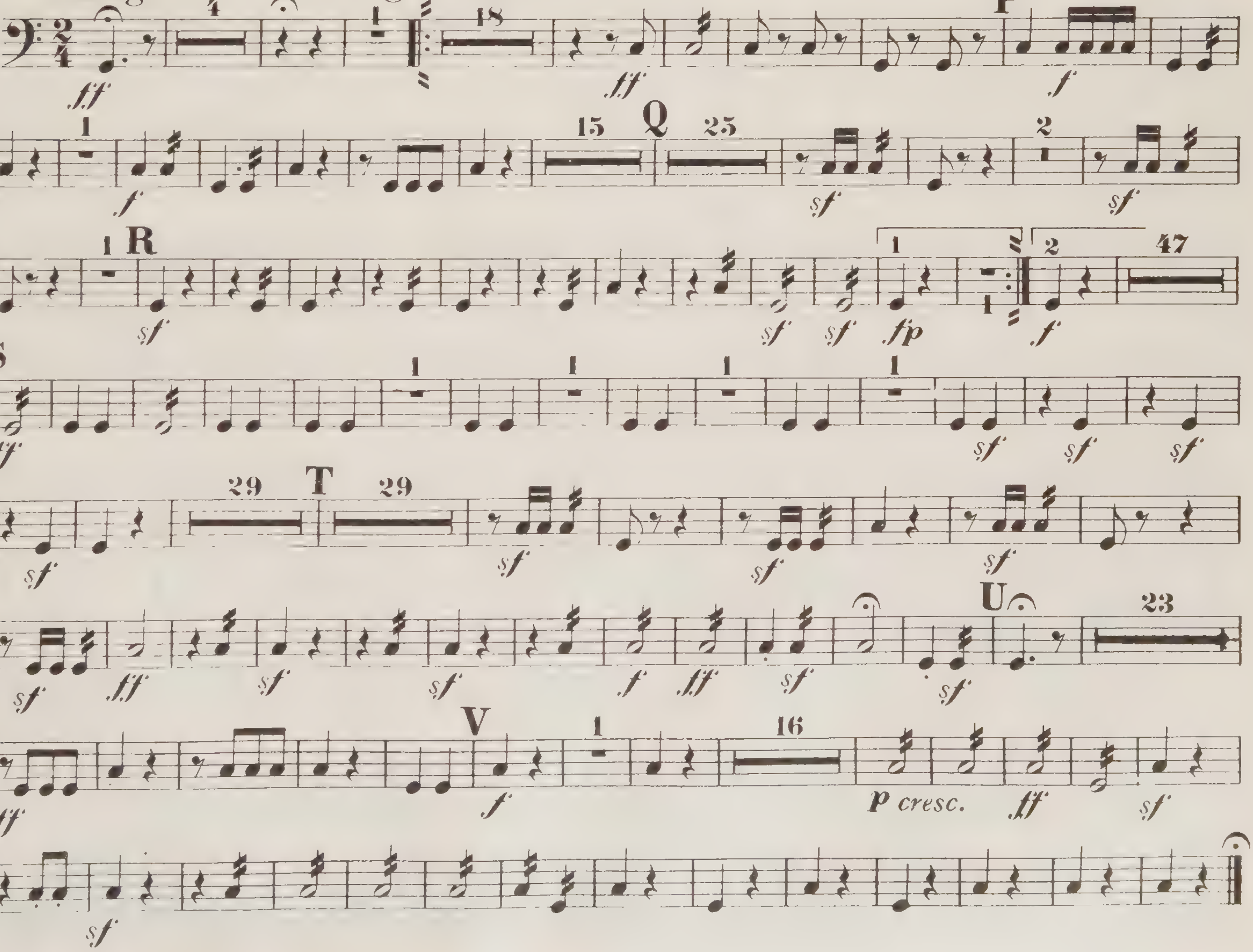
MENUETTO.
Allegro molto e vivace.



TRIO.



Adagio. Allegro molto e vivace.



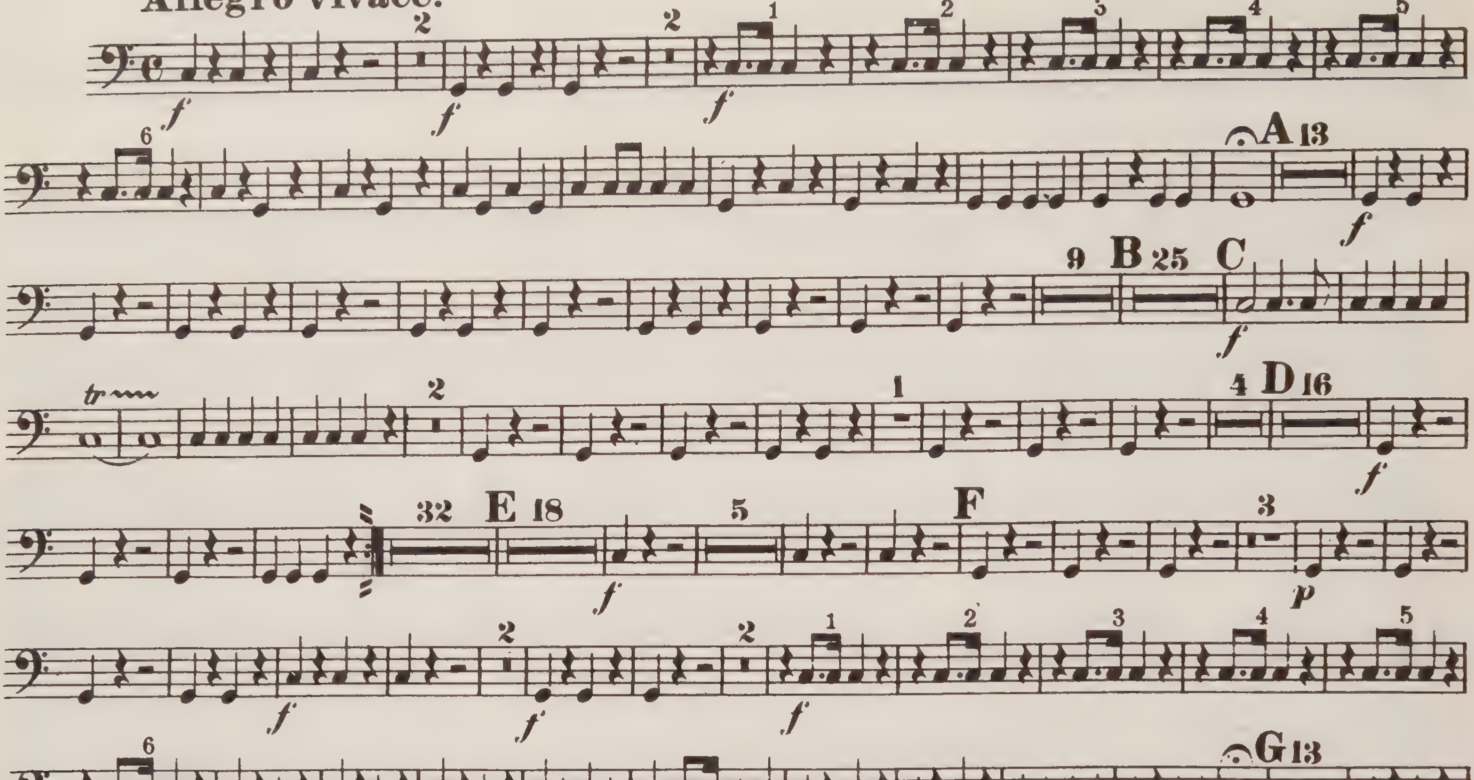
Timpani in C & G

W. A. Mozart's

"Jupiter Symphony"

arr. by THEO. MOSES.

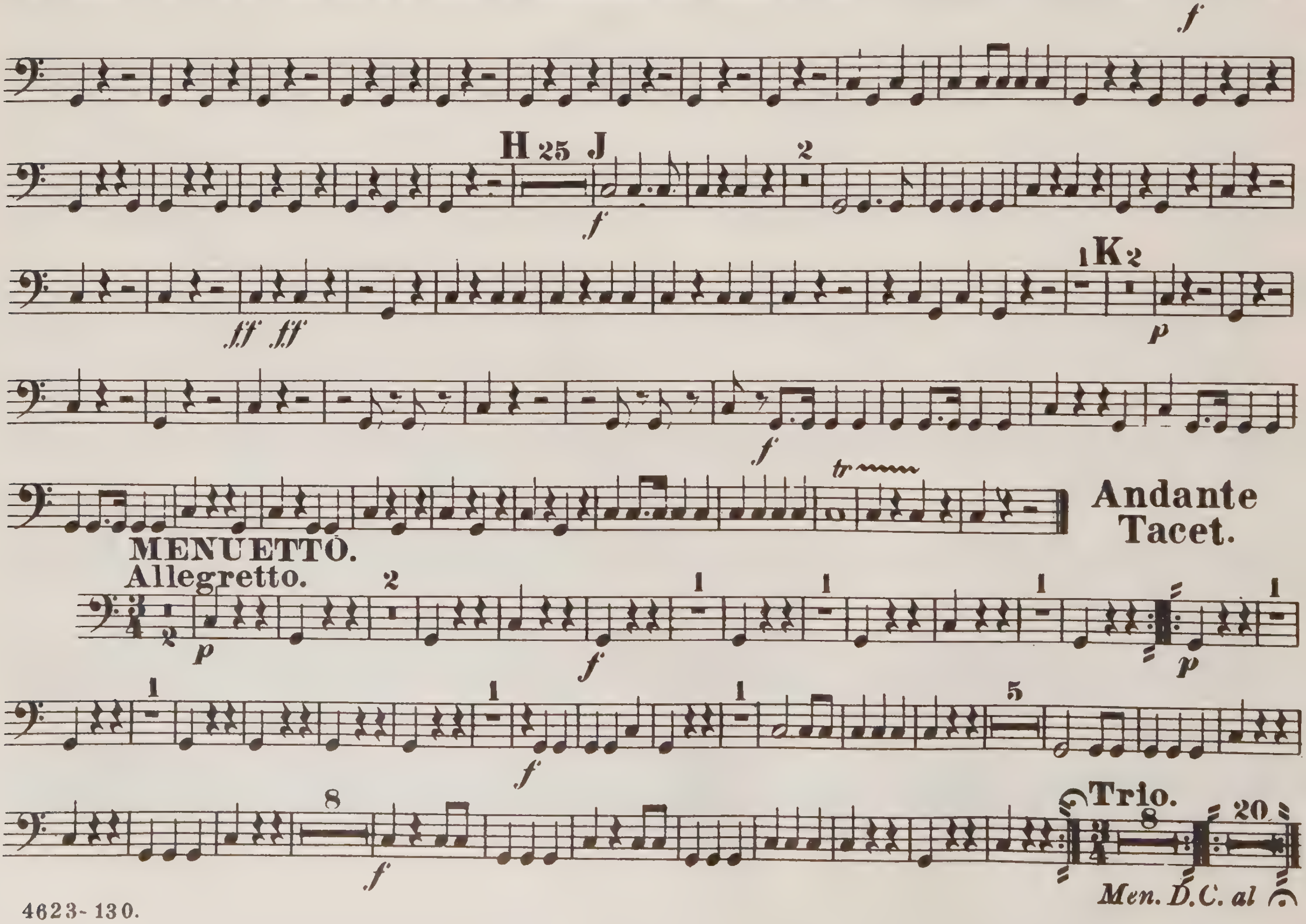
Allegro vivace.



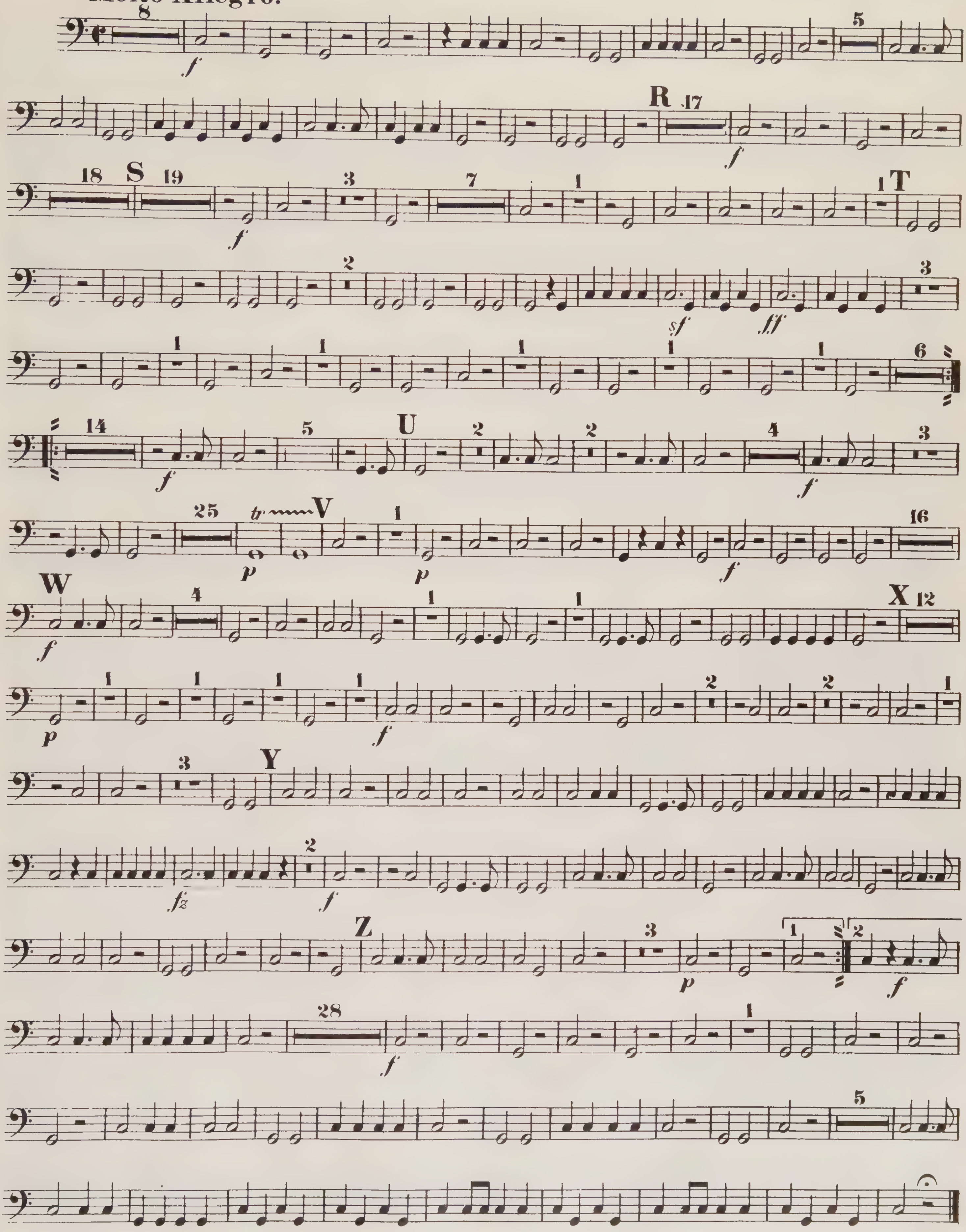
Andante Tacet.

MENUETTO.

Allegretto.



FINALE.
Molto Allegro.

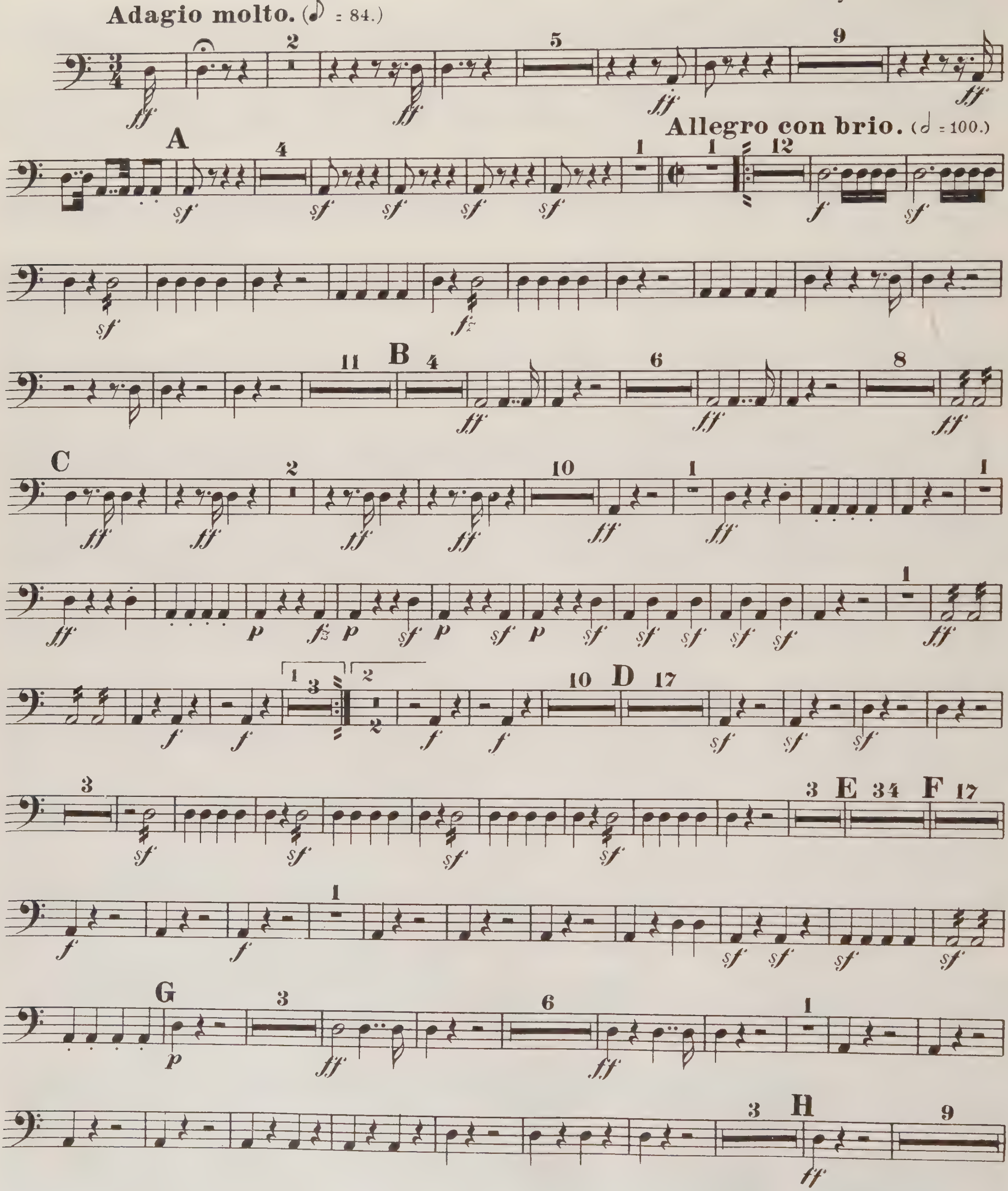


Timpani in D-A

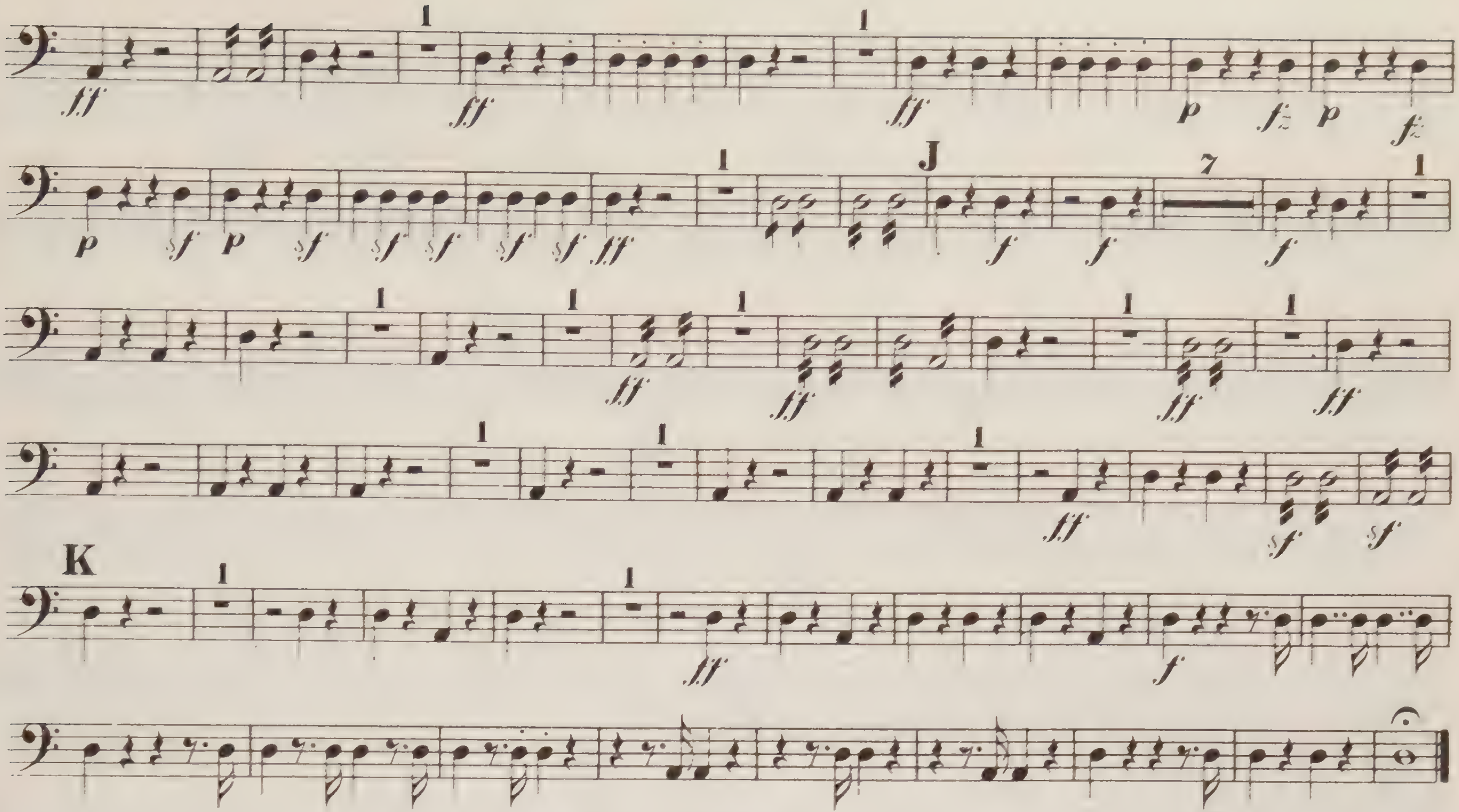
L. v. Beethoven's

"Second Symphony"

arr. by THÉO. MOSES.



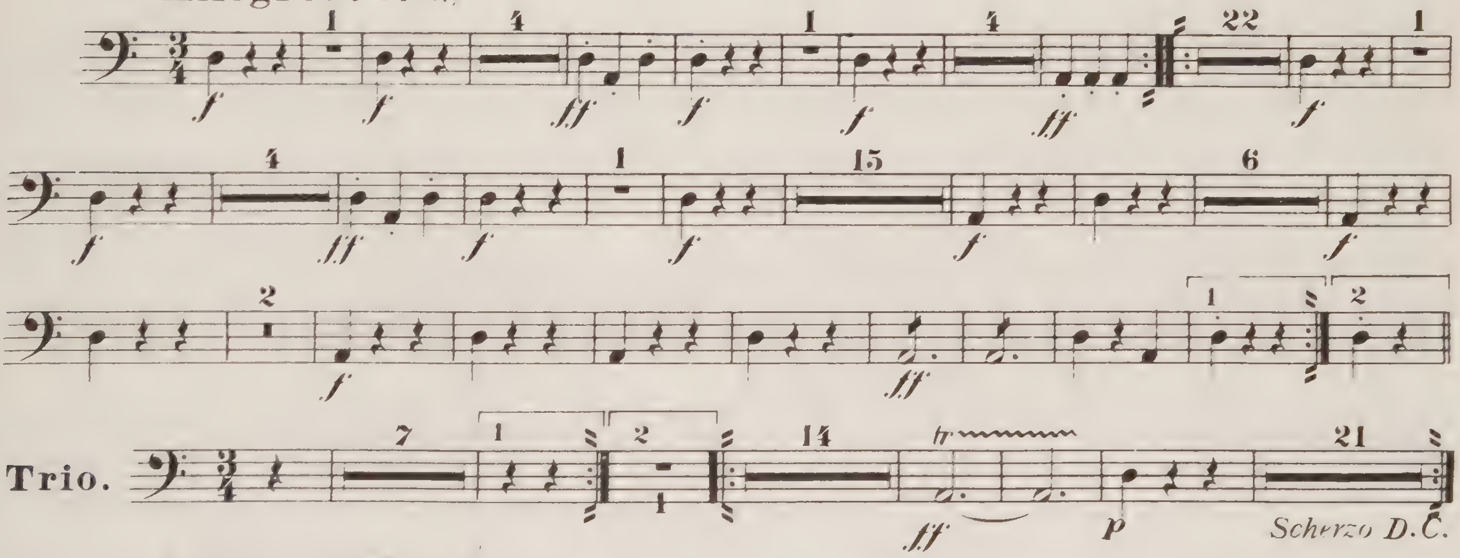
Timpani in D-A



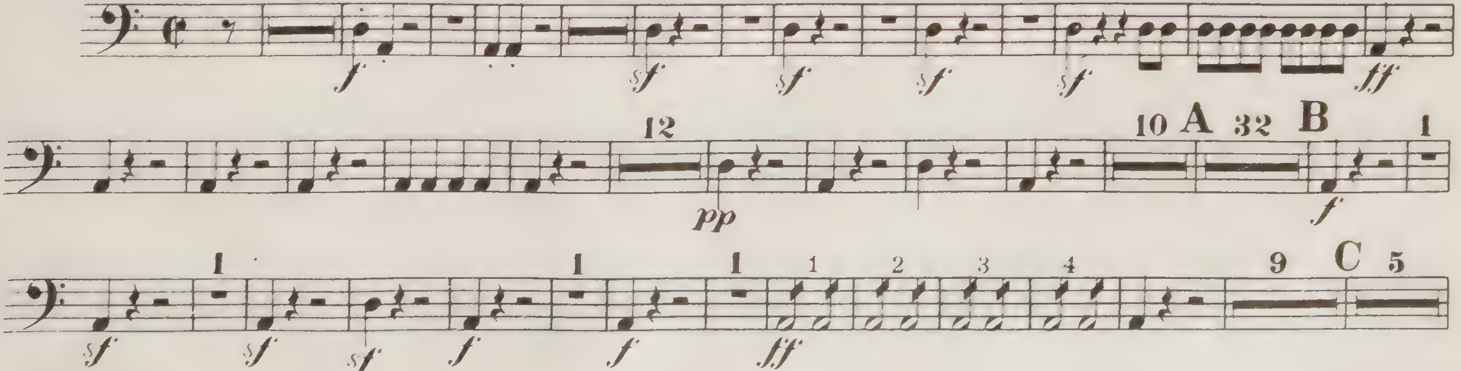
Larghetto (tacet.)

SCHERZO.

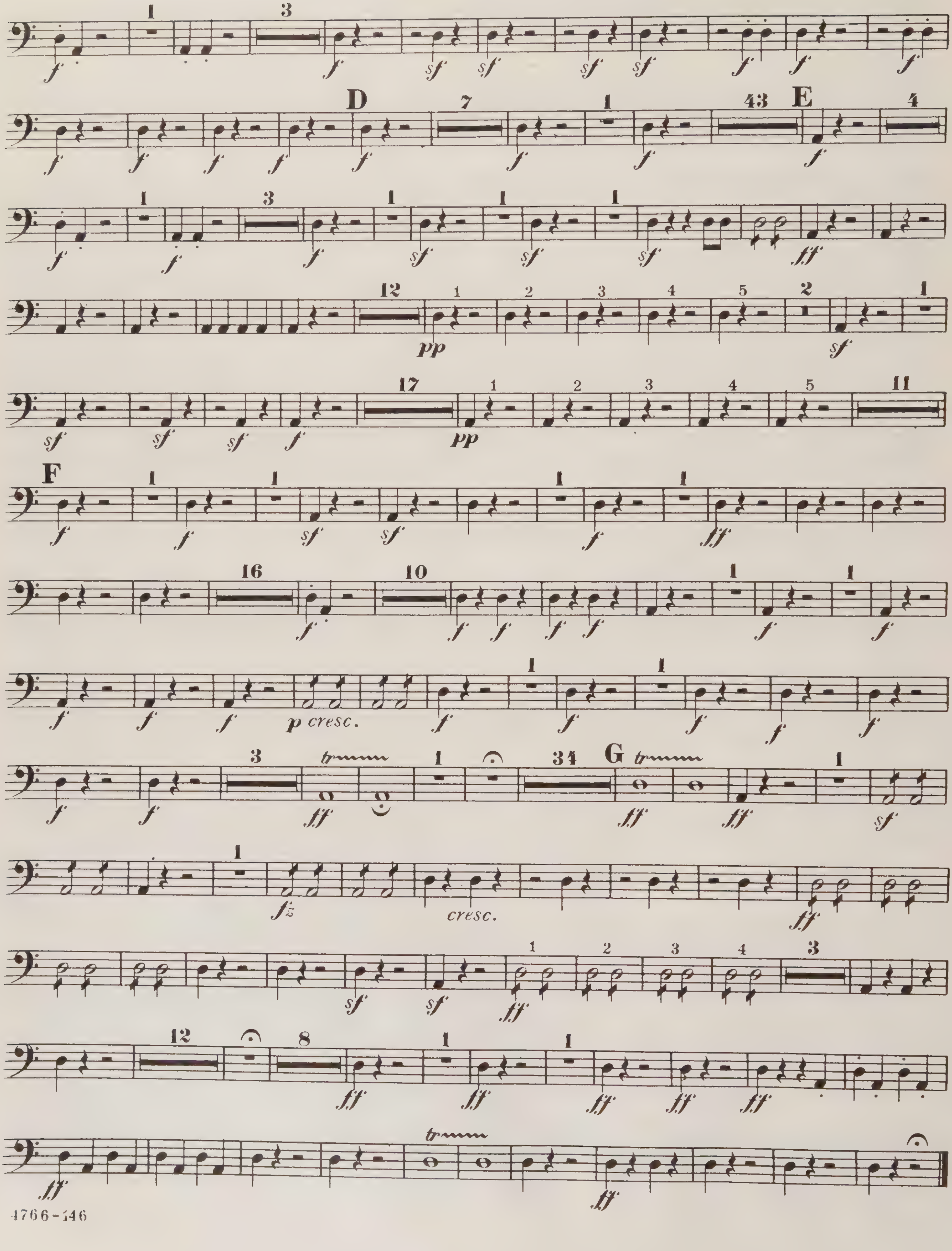
Allegro. (𝅗𝅥. = 100.)



Allegro molto. (𝅗𝅥 = 152.)



Timpani in D-A



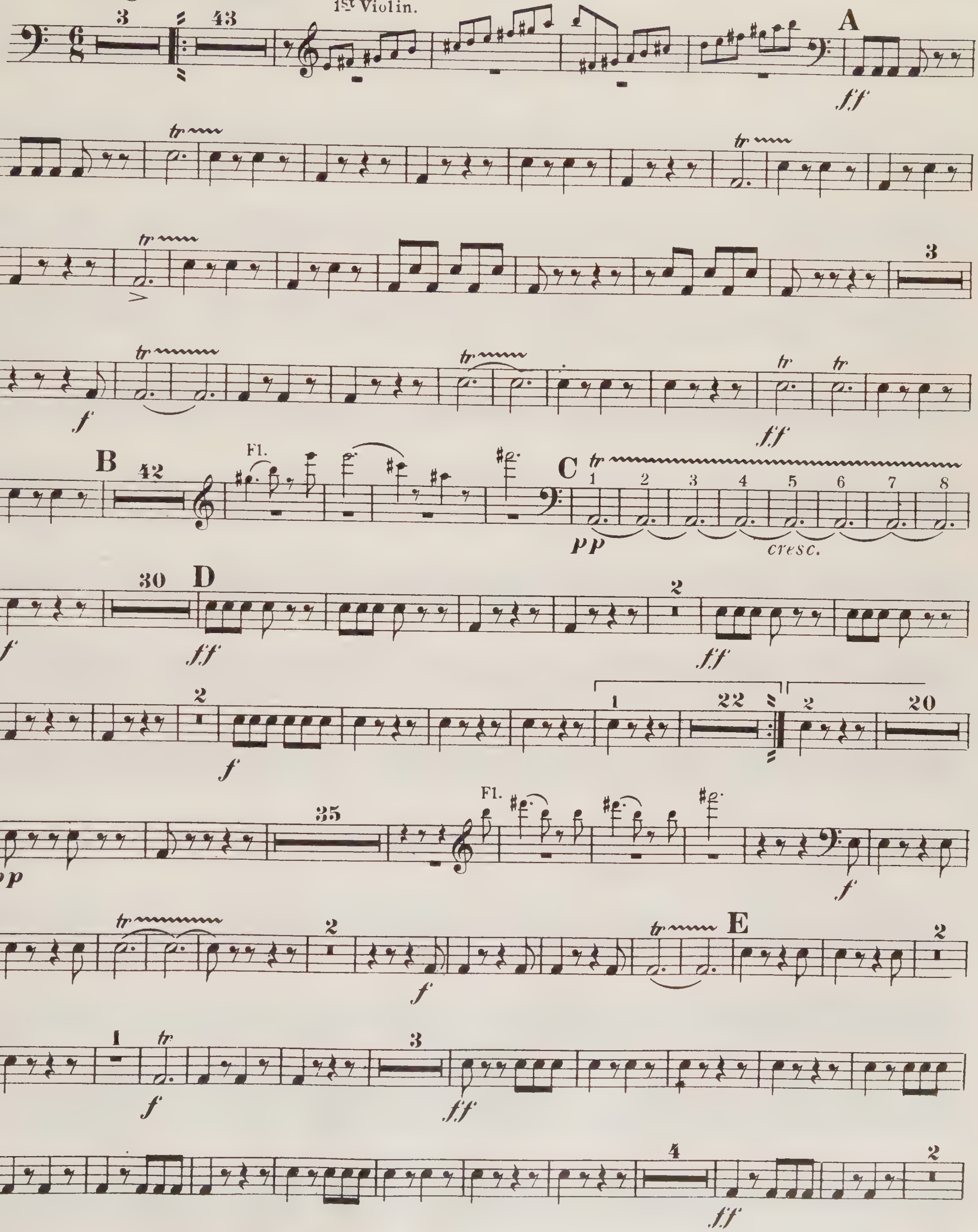
F. Mendelssohn's

"Italian Symphony"

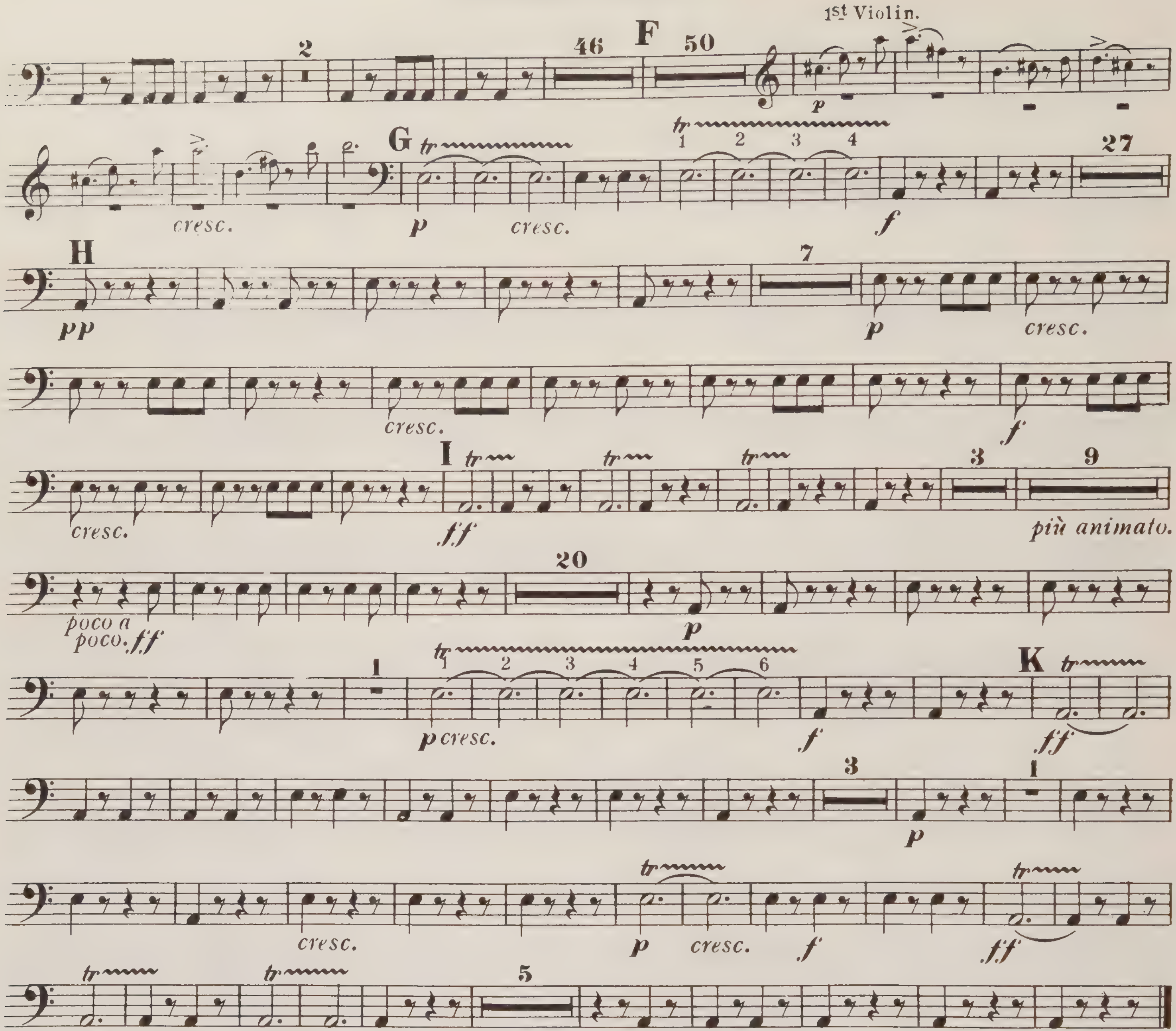
Timpani in E & A

arr. by THEO. MOSES.

Allegro vivace.



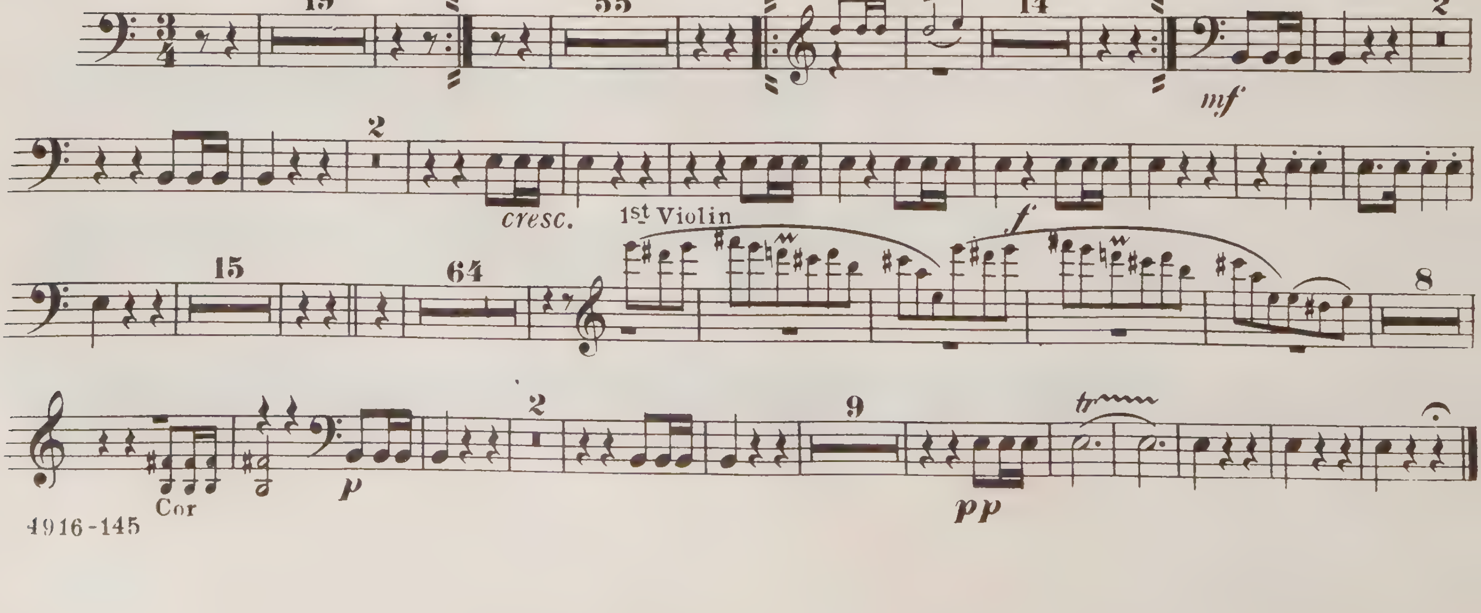
Timpani in E & A



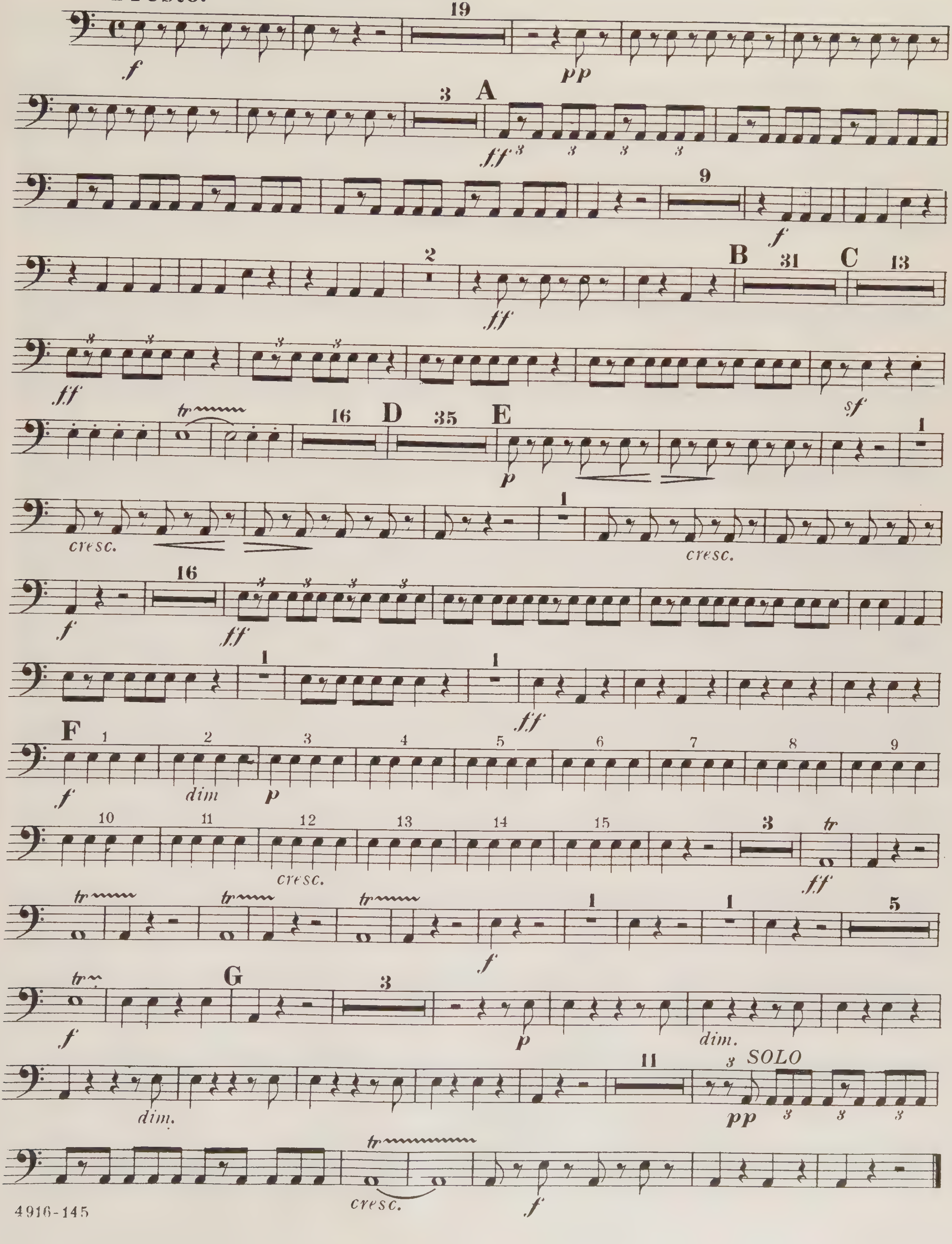
in E & B

Andante con moto "Tacet."

Con moto moderato



Saltarello.
Presto.



Timpani in E♭ & B♭

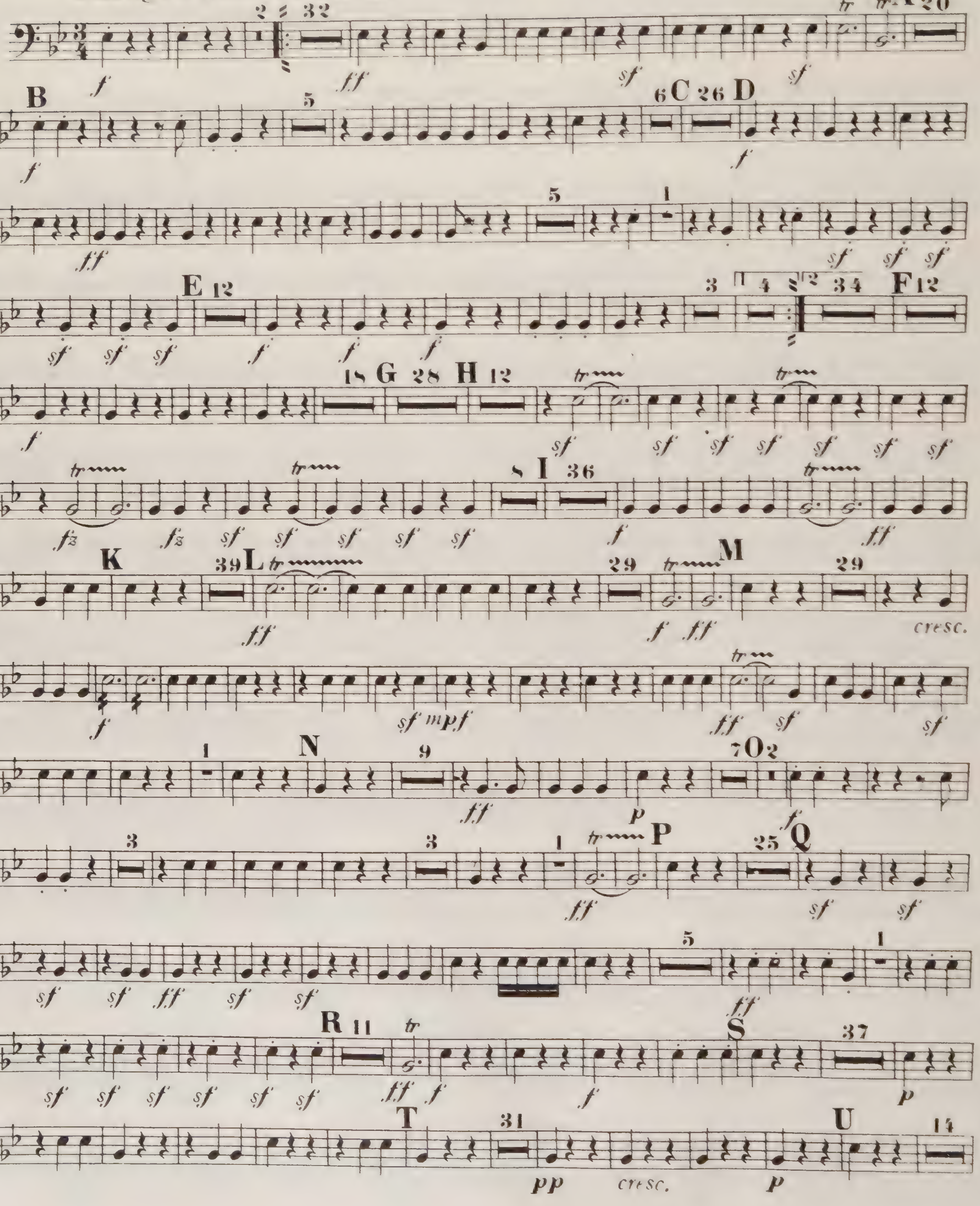
L.v. Beethoven's

"Third Symphony"

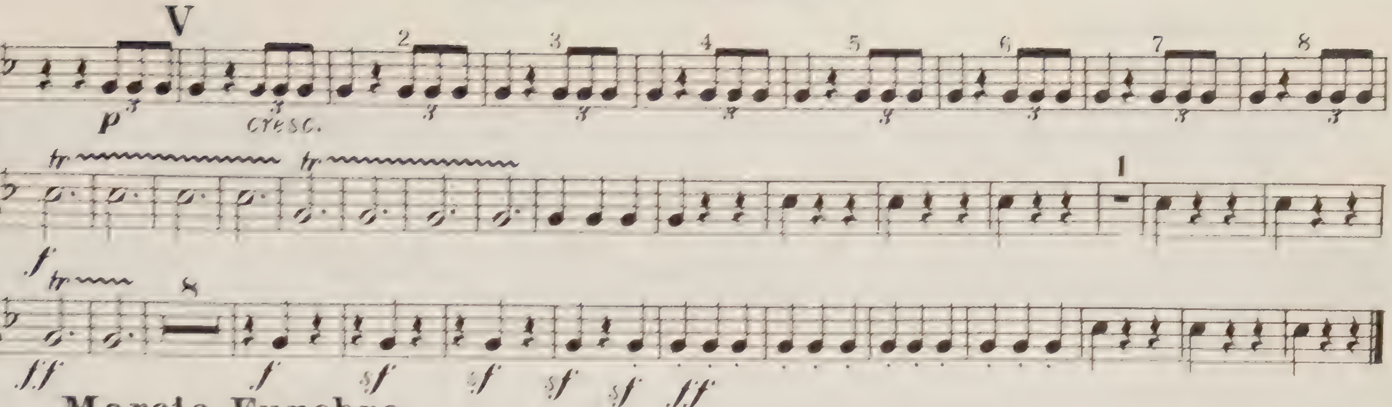
(Eroica.)

arr. by THEO. MOSES.

Allegro con brio. (♩. = 60)

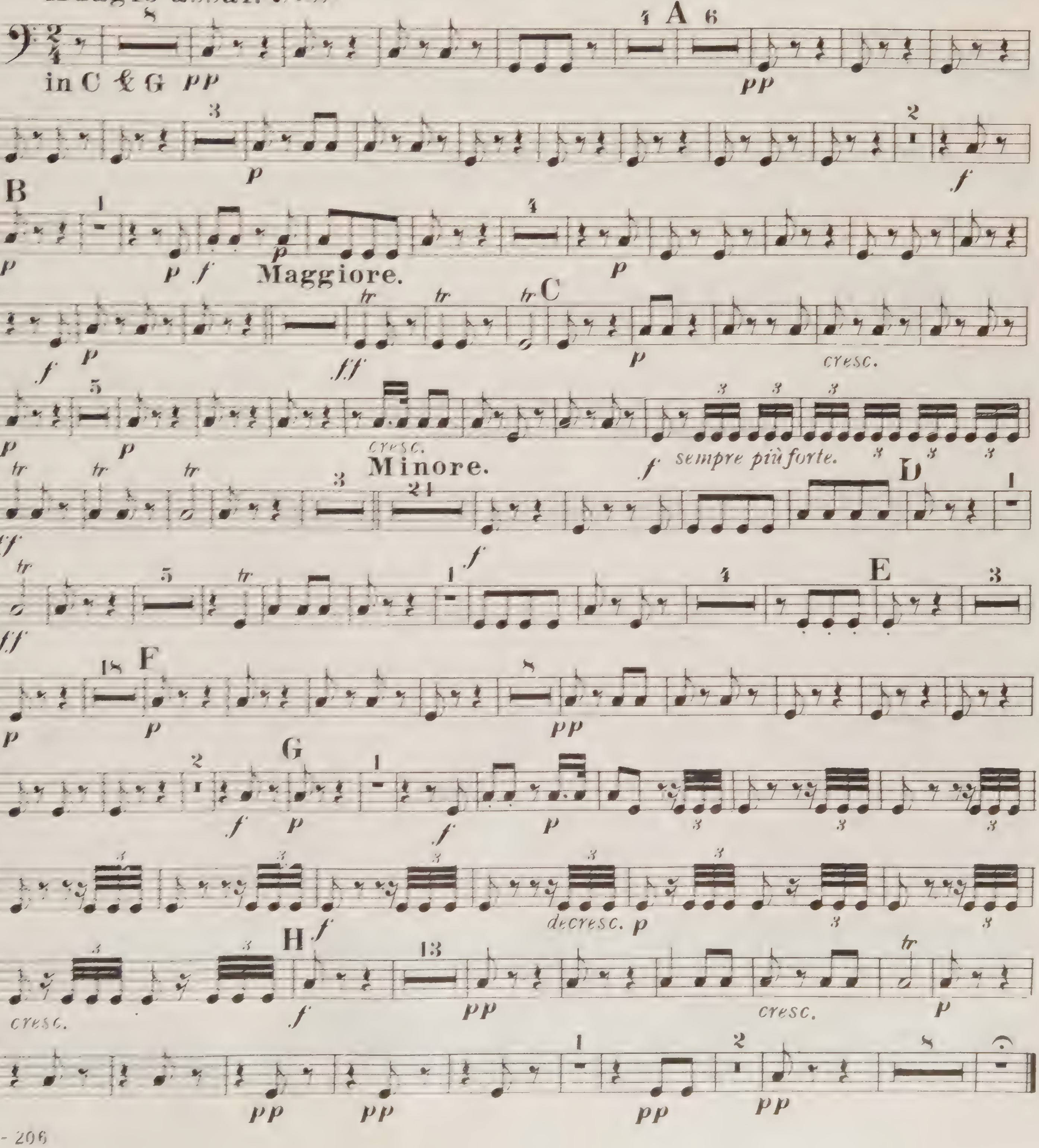


Timpani in E♭ & B♭

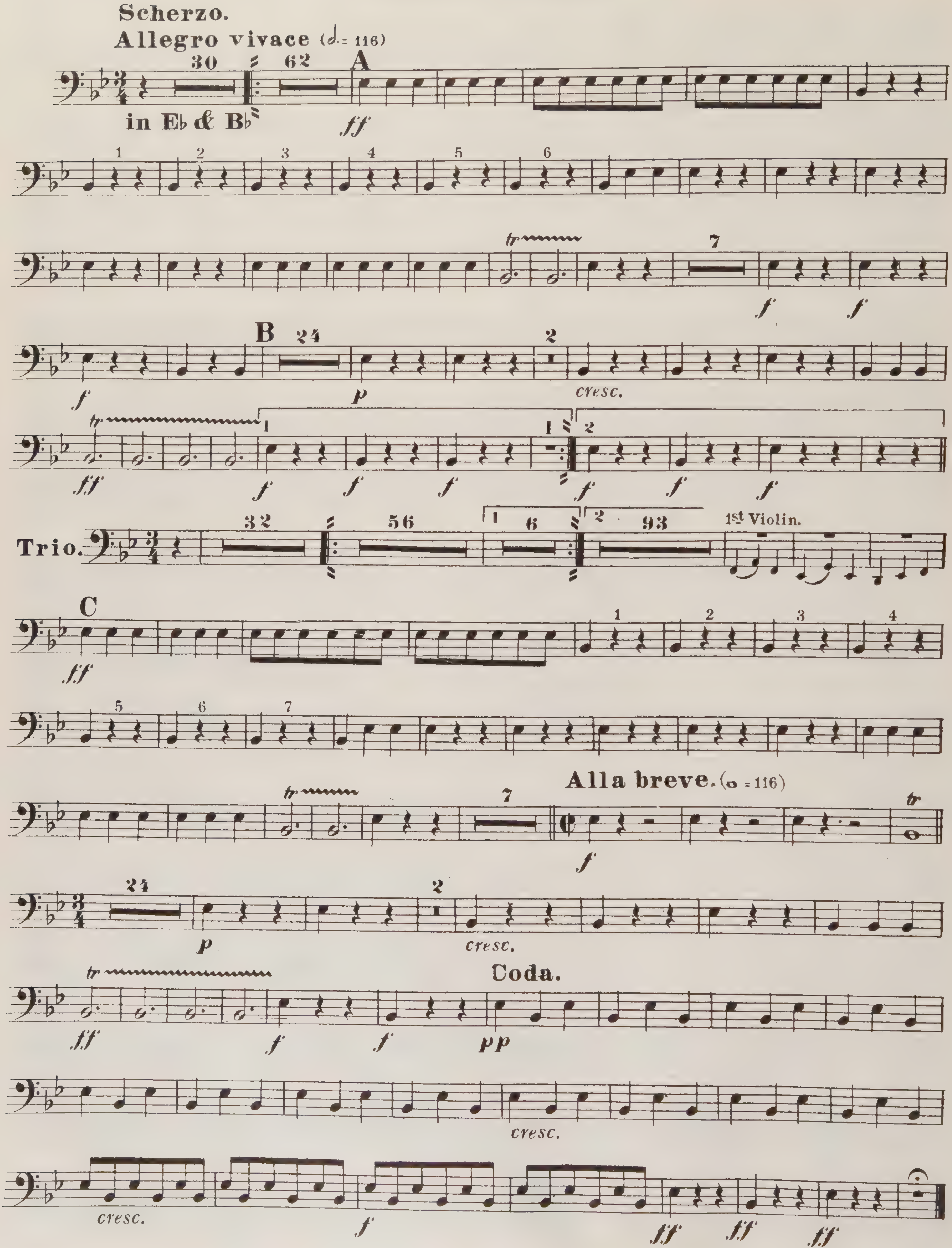


Marcia Funebre

Adagio assai. (♩=80)



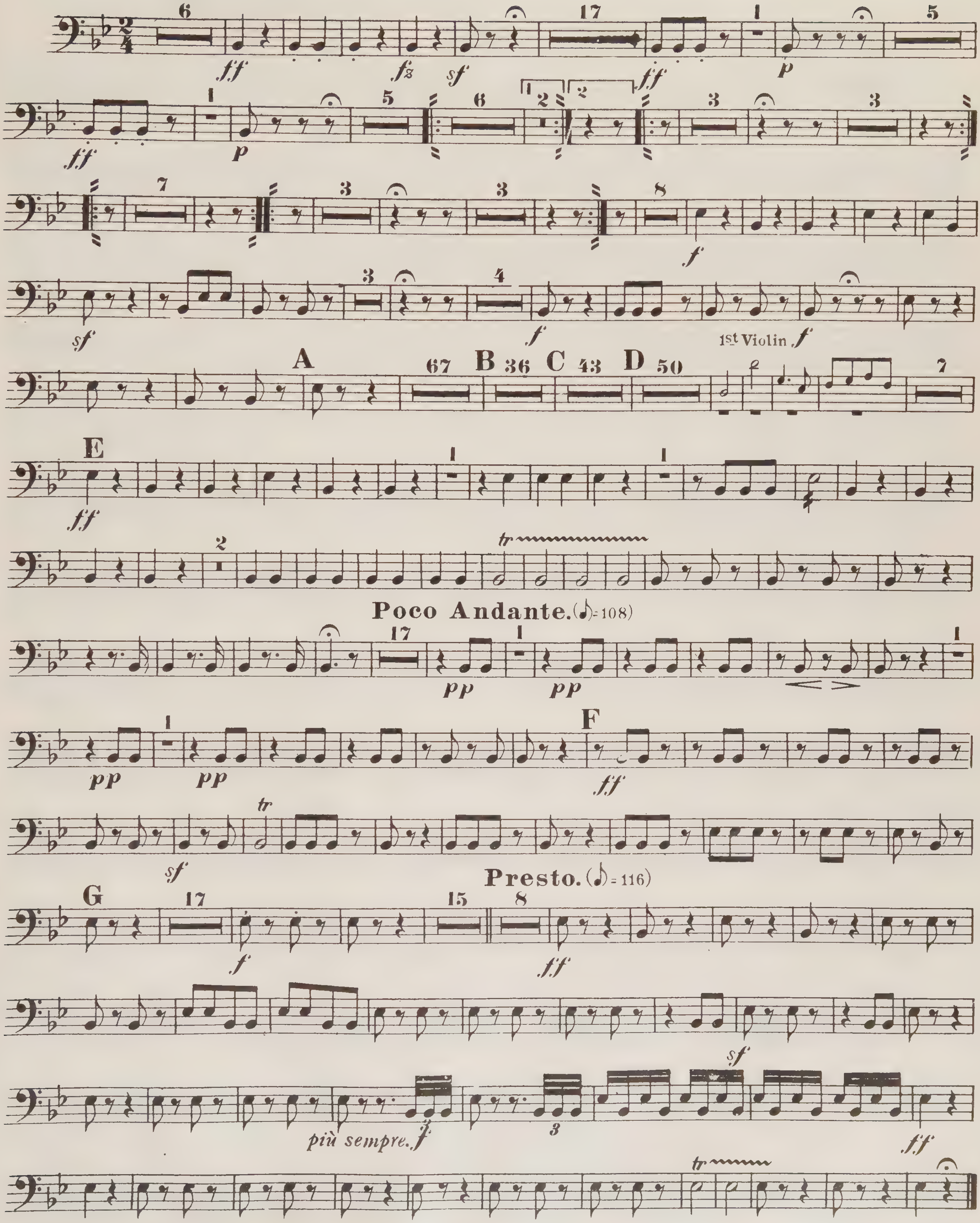
Timpani in E♭ & B♭



Timpani in E♭ & B♭

Finale.

Allegro molto. (𝅗𝅥 = 76)



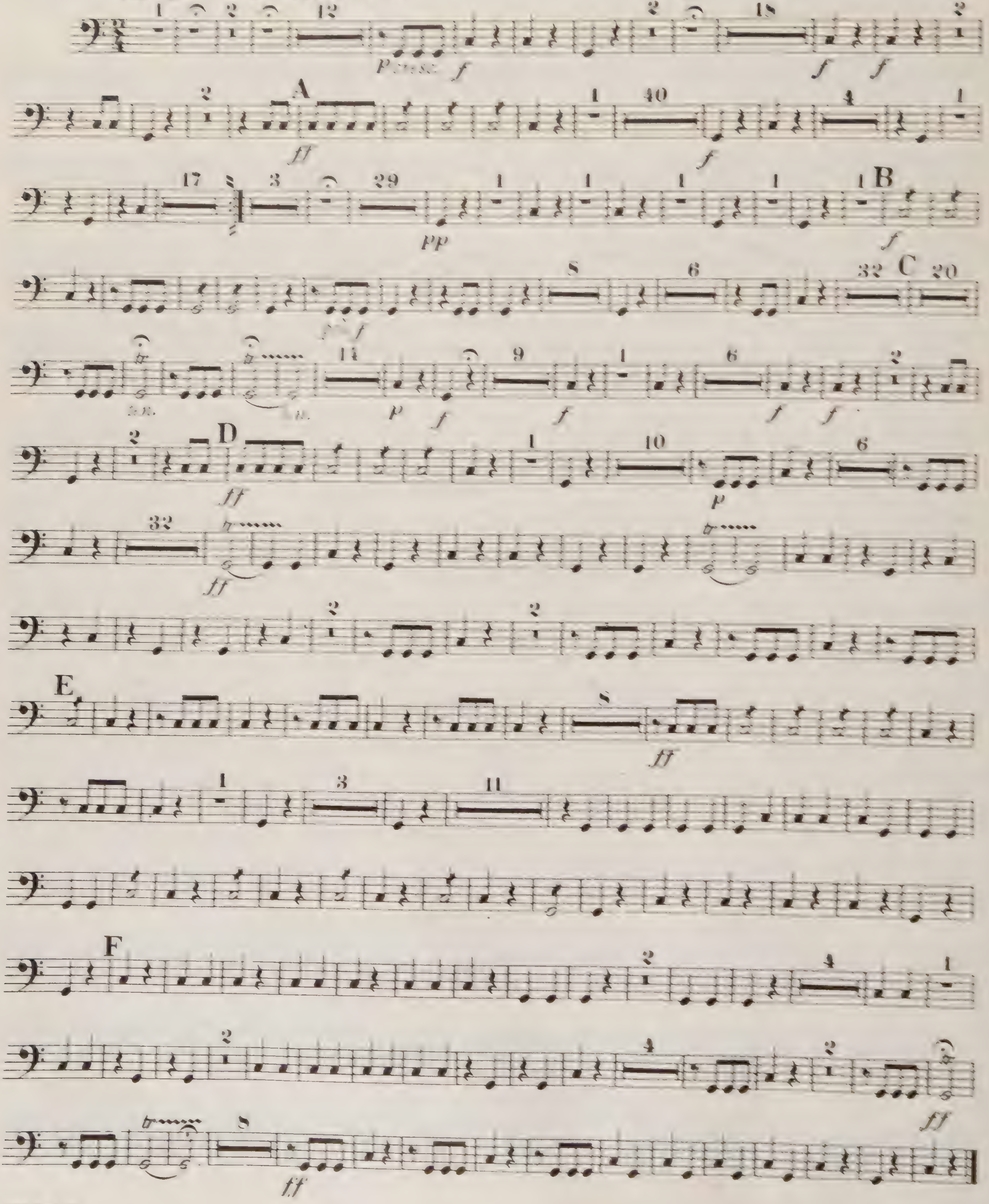
Timpani in C-G

L. v. Beethoven's

Fifth Symphony

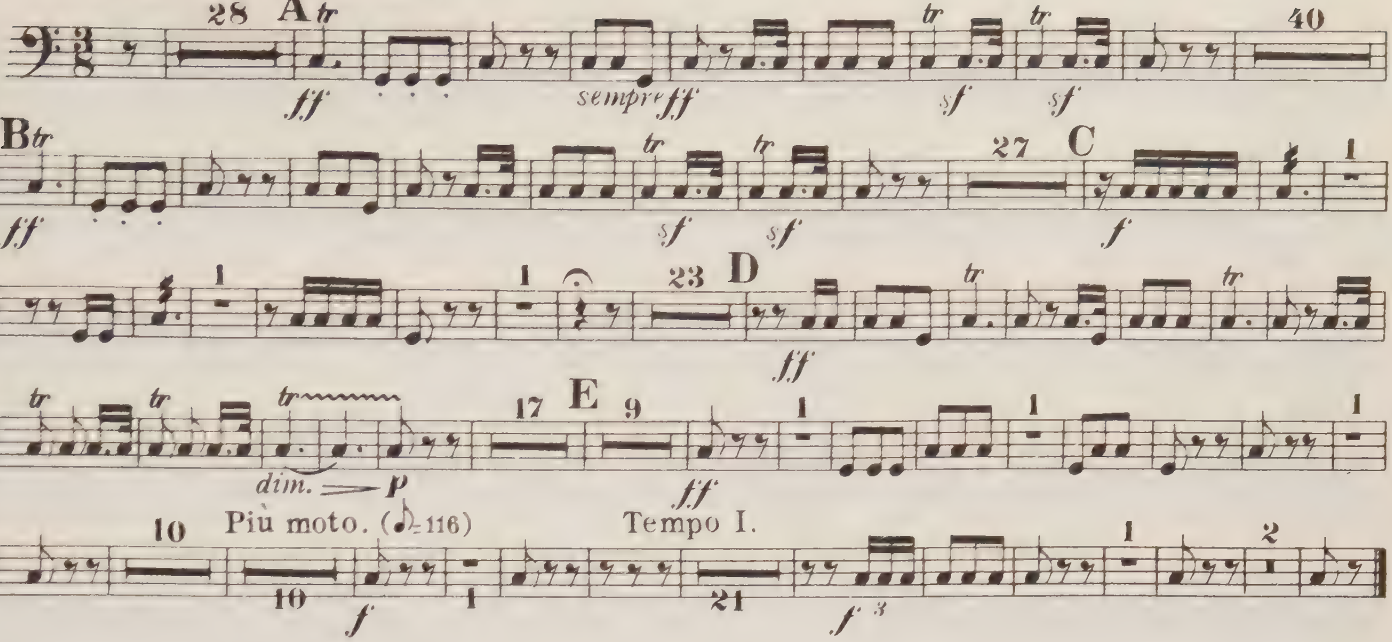
arr. by THEO. MOSES

Allegro con brio. ([illegible])

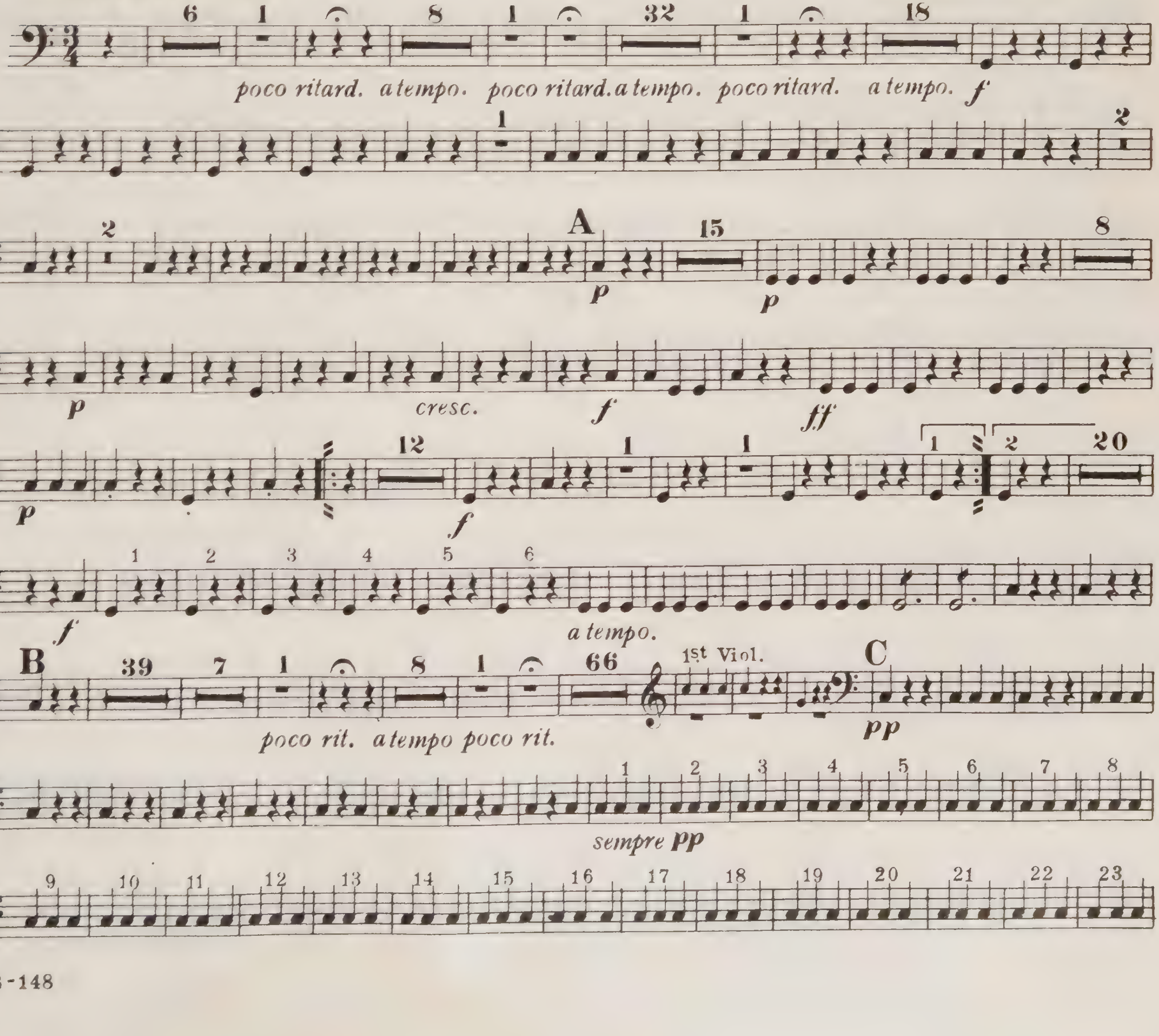


Timpani in C-G

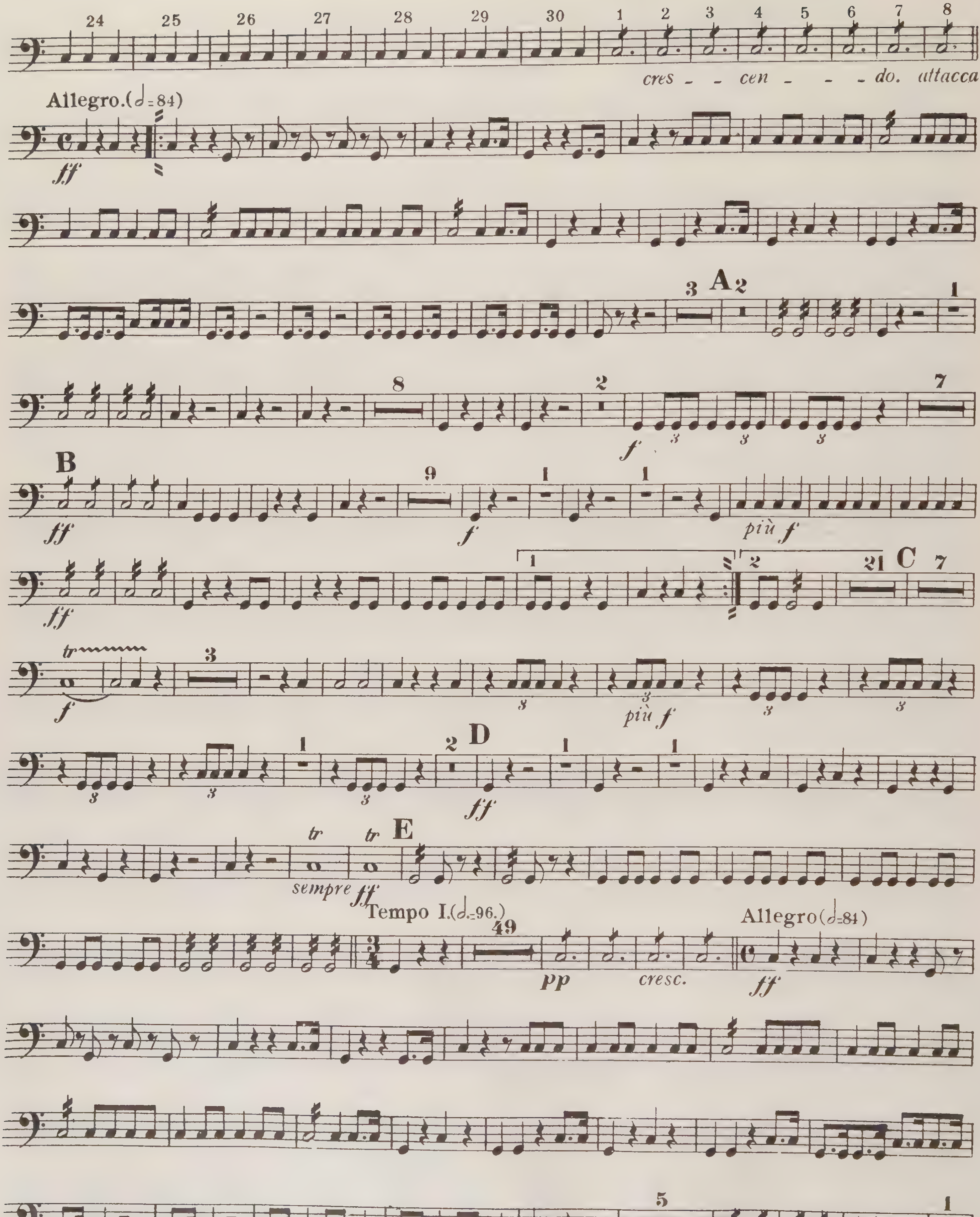
Andante con moto. (♪=92)



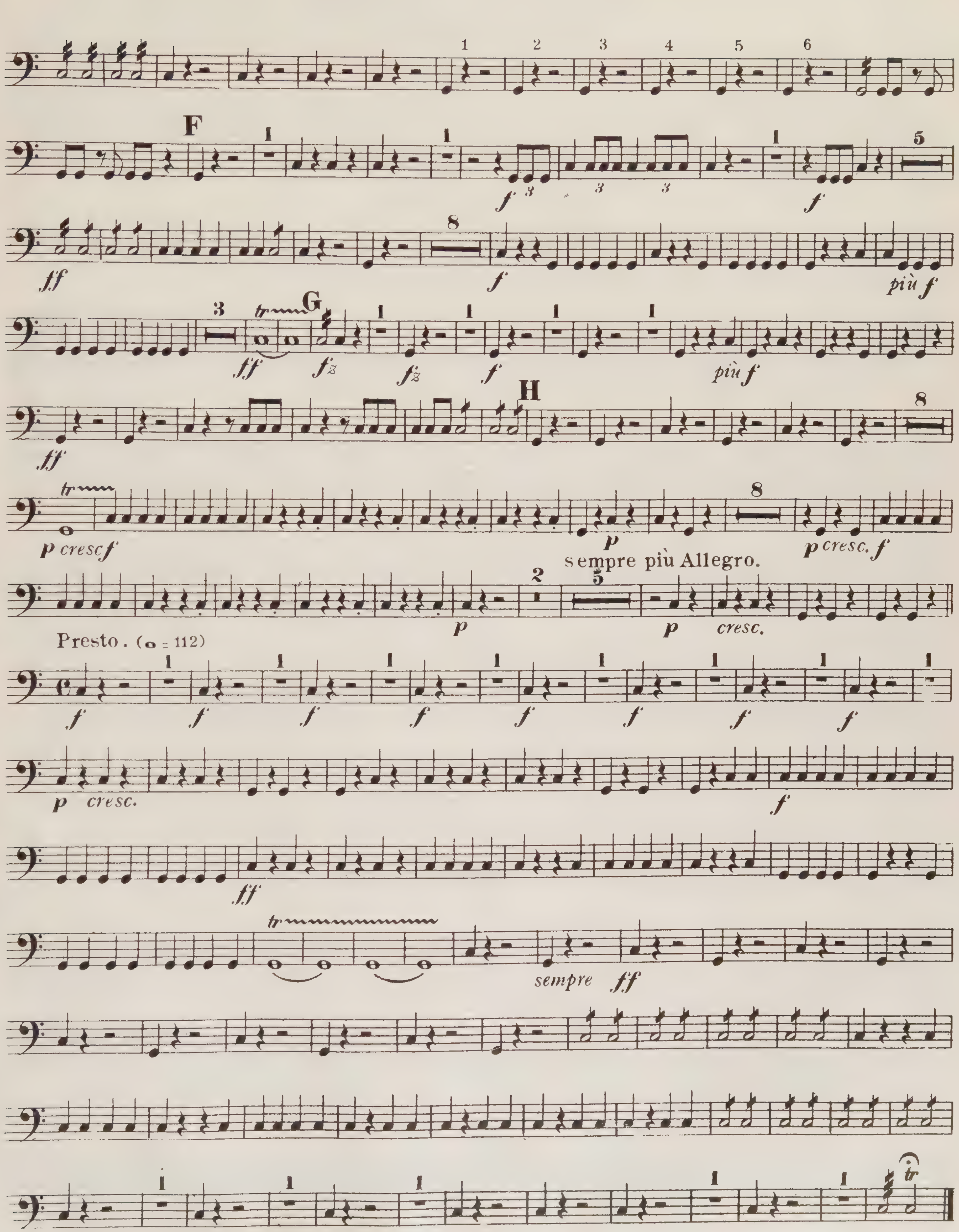
Allegro. (𝅗𝅥=96)



Timpani in C-G



Timpani in C-G



Orchestra Studies

For Three Timpani

The following quotation contains a change of pitch which is impossible to make upon a hand tuning drum and therefore three timpani must be used. With machine drums, only two timpani are necessary as the change from D to C may be made with the pedal during the playing of the fifth and sixth measures in the quotation

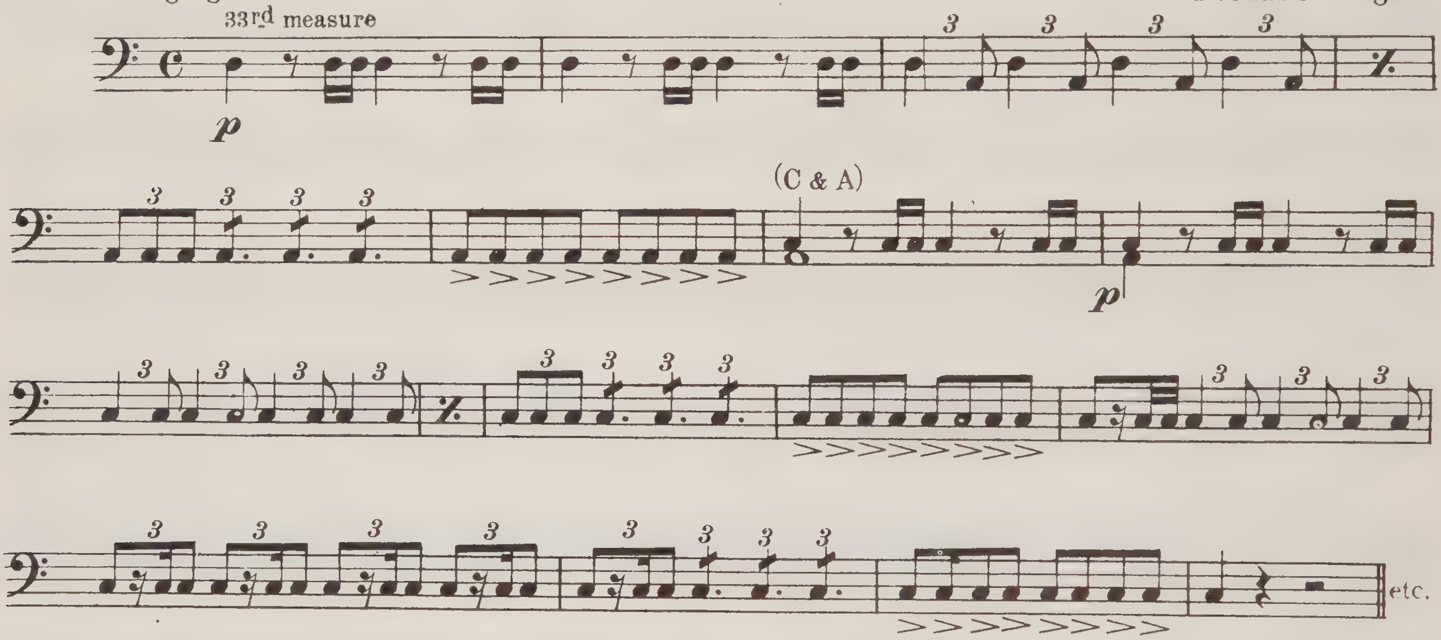
Extract from the Opera

Lohengrin

Change of Scene, Act 3.

Timpani
In D (changing to C) **& A**

Richard Wagner



Three timpani are necessary in the following quotation even when machine drums are used. The glockenspiel part quoted is written above the standard notating compass (see page 6 Part 2.)

Prelude

from

The Dusk of the Gods

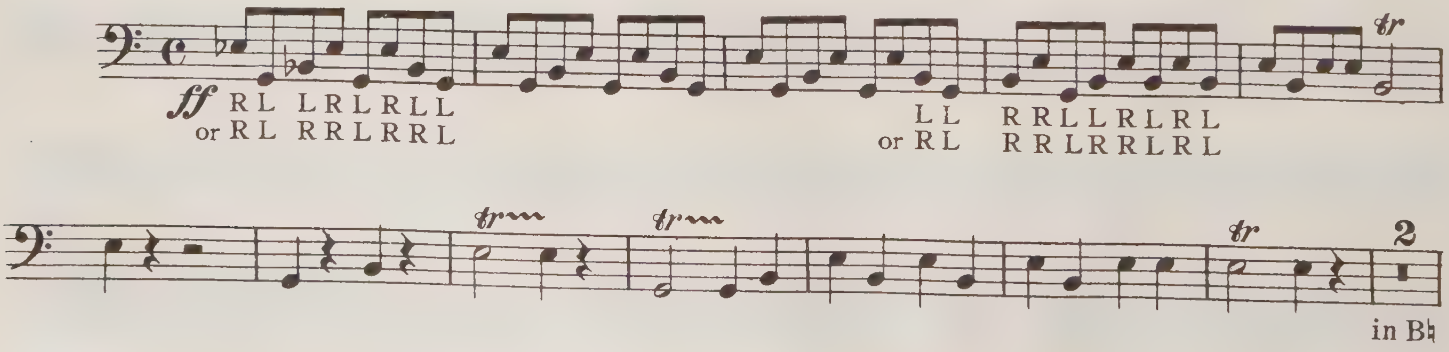
(Die Götterdammerung)

Fourth Night of the Nibelungen Ring

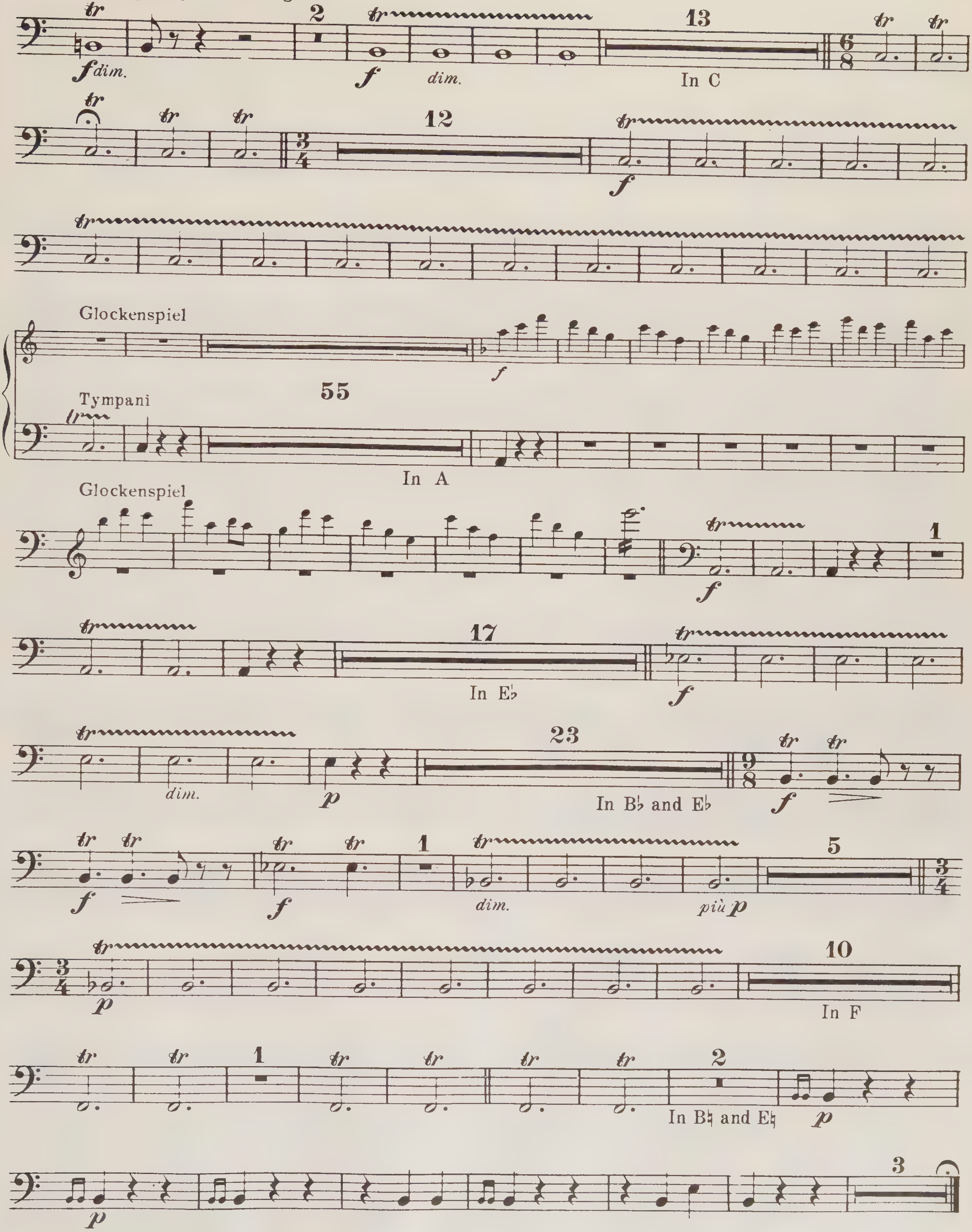
Timpani
In E♭, B♭ & G

Allegro

Richard Wagner



Sehr aufgeregt *(With agitation)*



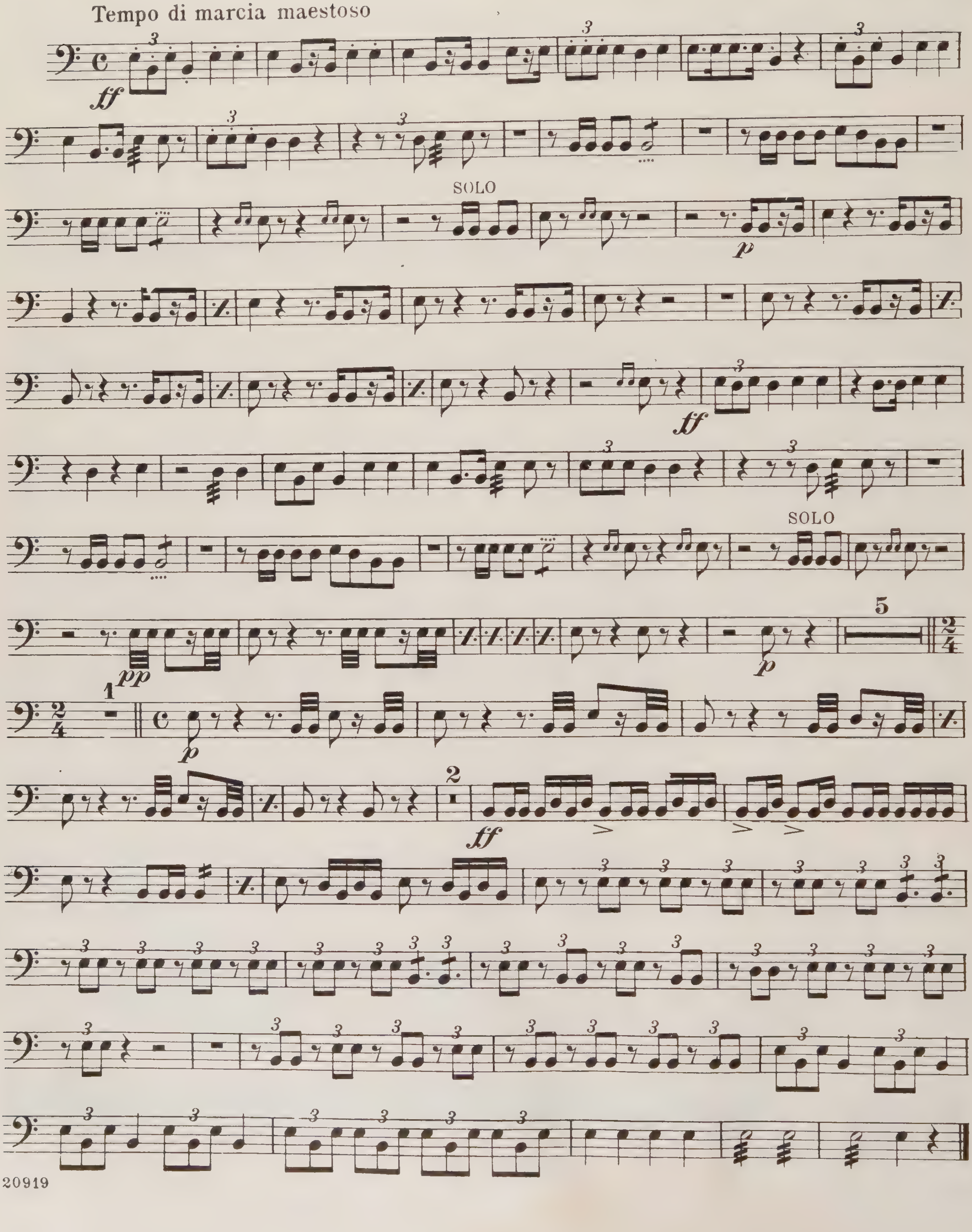
Coronation March

From

THE PROPHET

Timpani in E♭, D & B♭.

G. Meyerbeer



Timpani

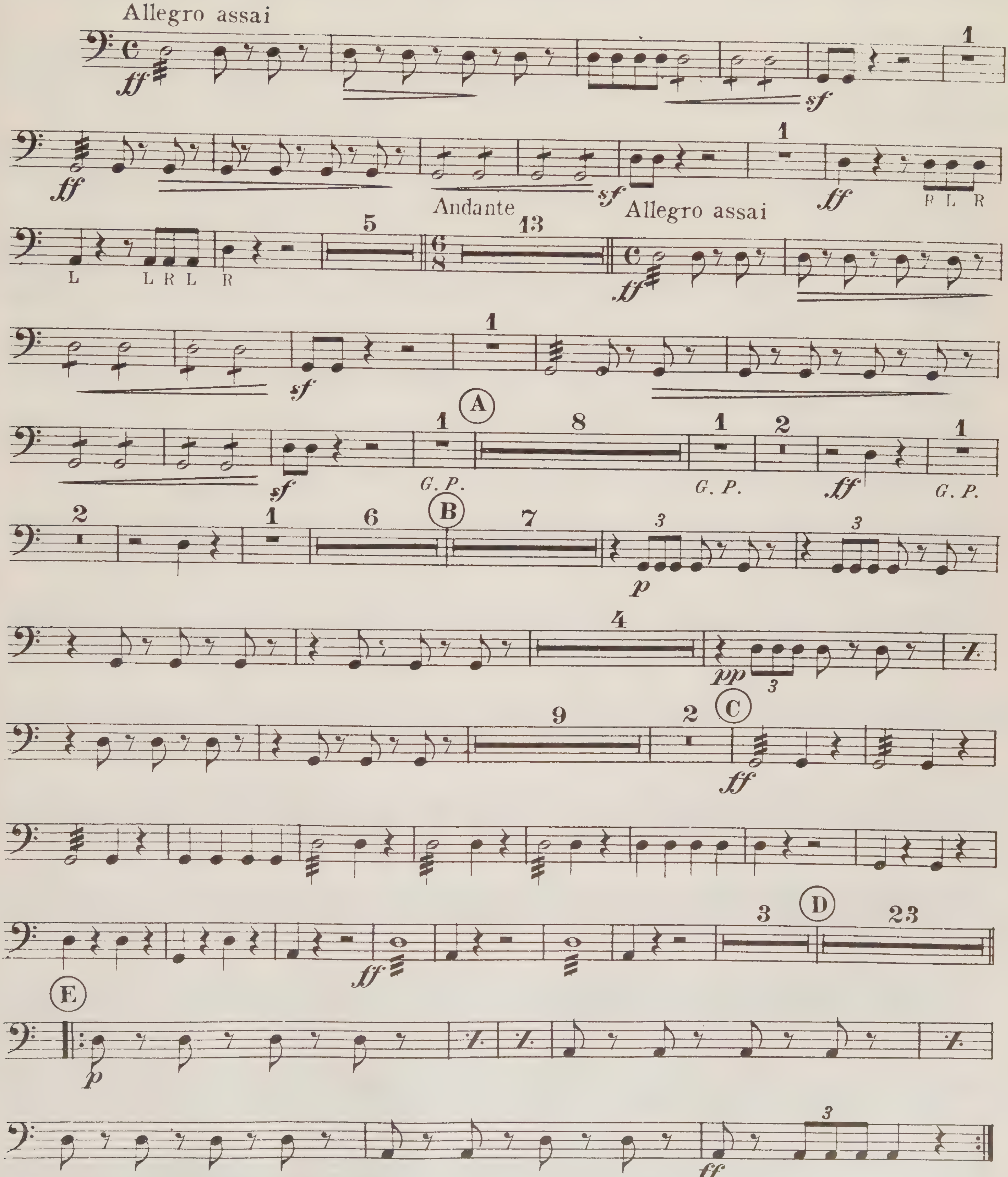
Masaniello

(Die Stumme von Portiei)

Overture

D. F. E. AUBER

In D G & A*



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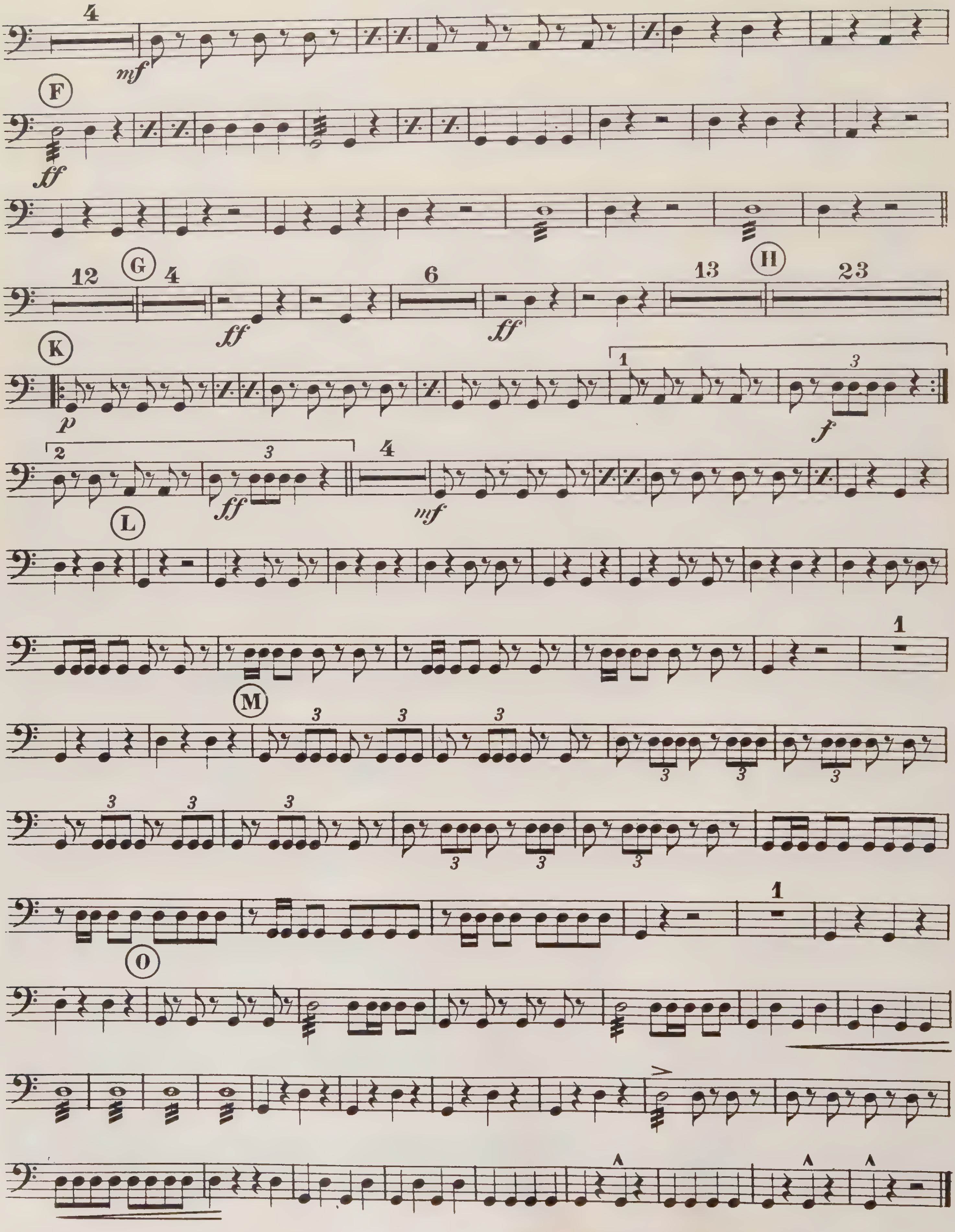
* This overture is arranged for two timpani (in D & G) published by Carl Fischer, Inc. (T1647)


4
mf
F
ff
12
G
4
ff
6
ff
13
H
23
K
p
1
3
f
2
3
ff
4
mf
L
1
M
3
O

Extracts from

Symphony in F Minor

Timpani

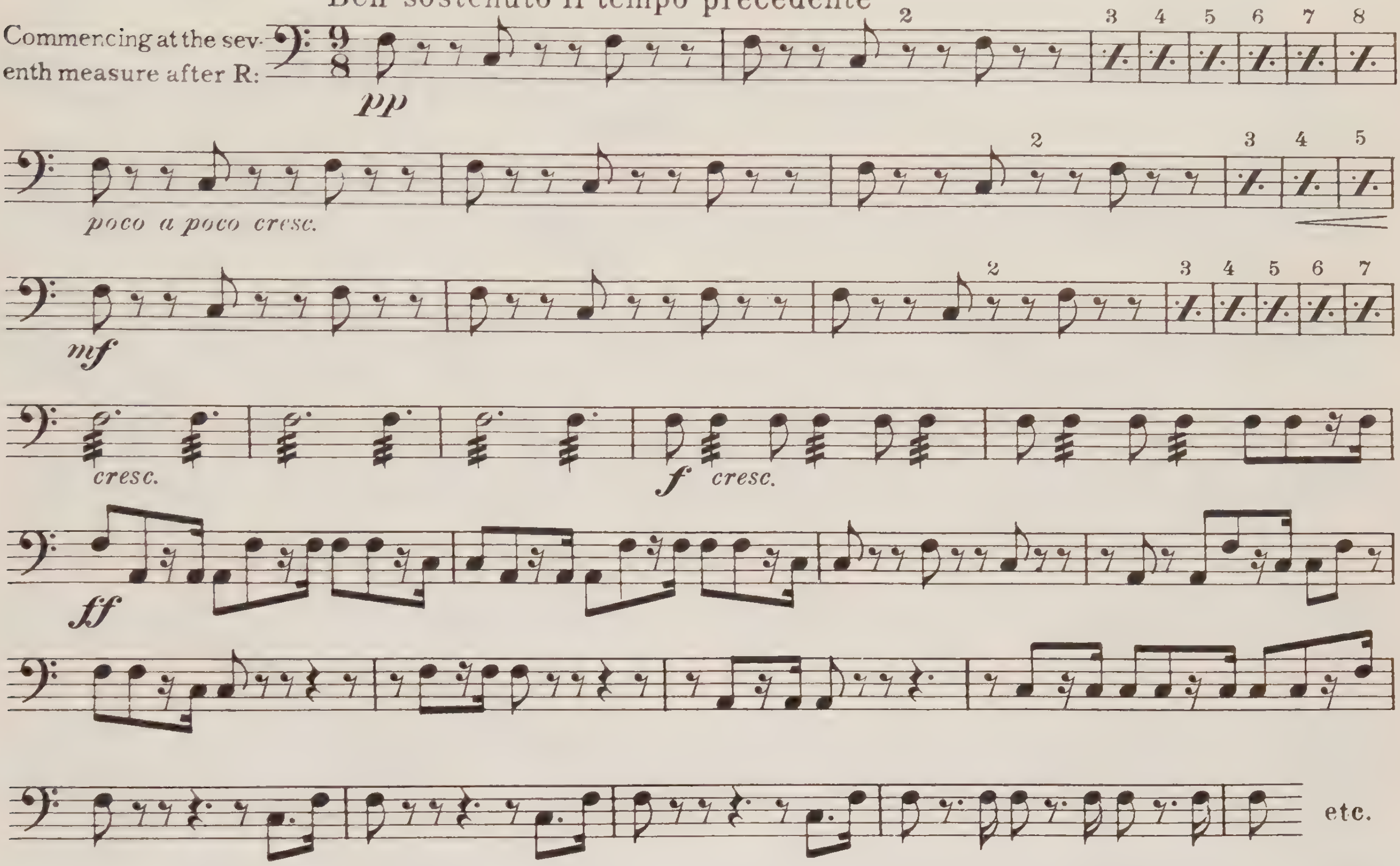
FIRST MOVEMENT

Peter Tschaikowsky, Op. 36

In F, A & C

Ben sostenuto il tempo precedente

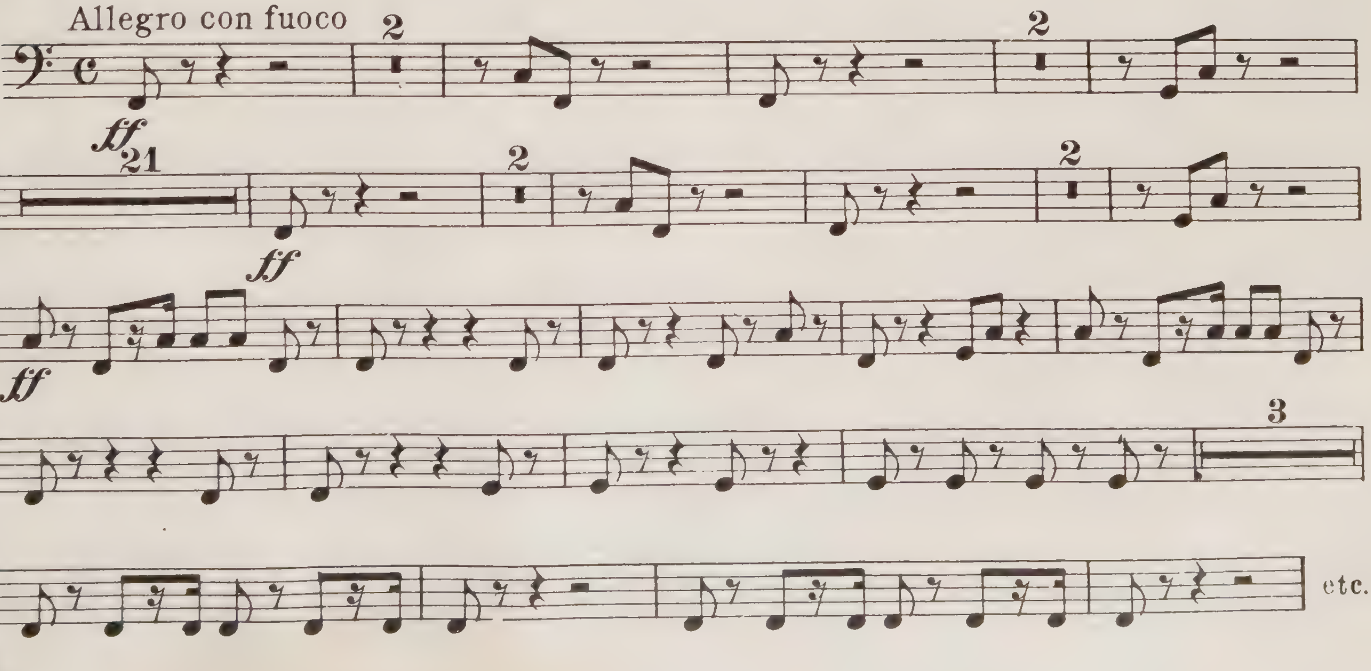
Commencing at the seventh measure after R:



FOURTH MOVEMENT

In F, C & G

Allegro con fuoco



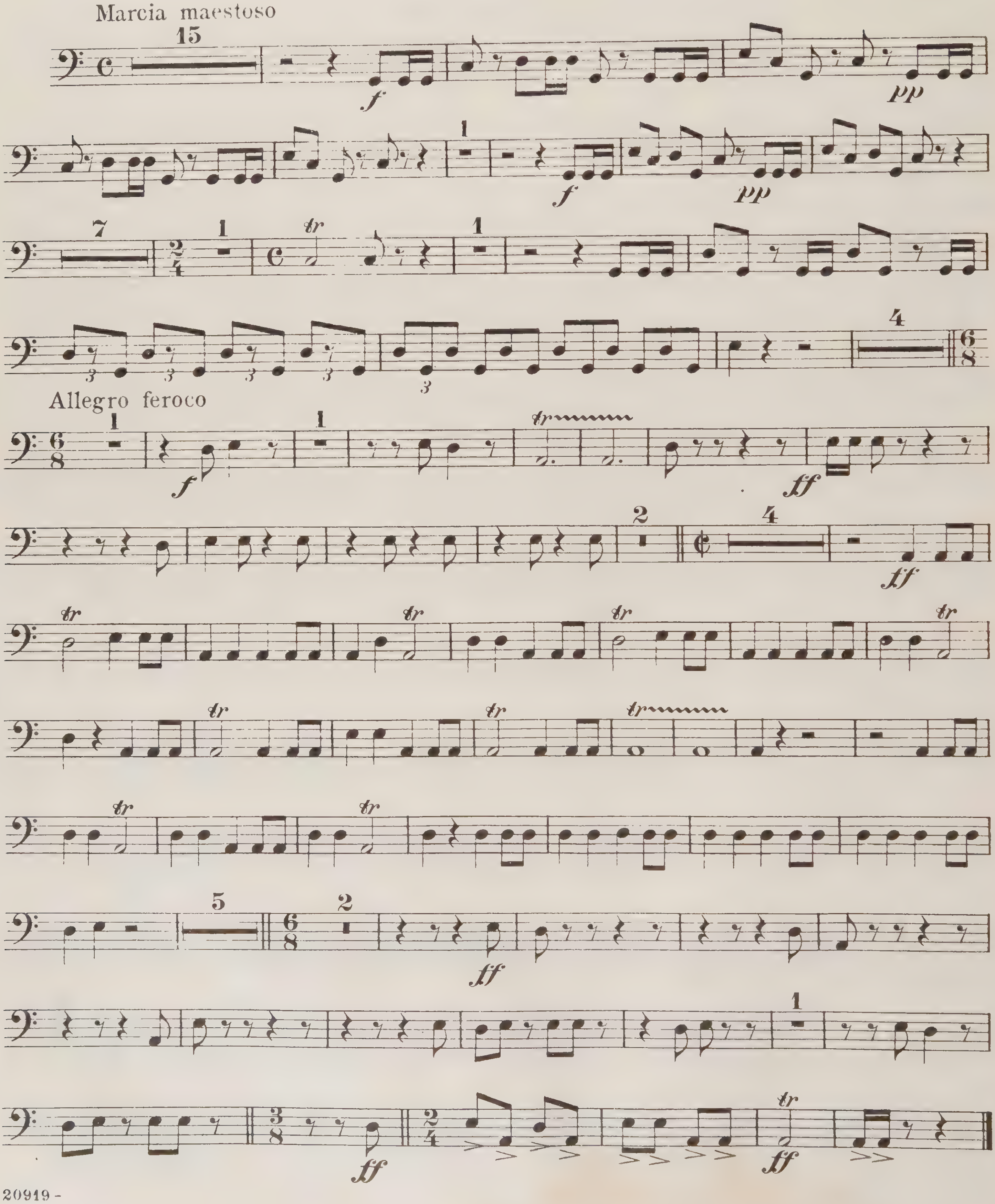
Orchestra Study for Four Timpani

No. 12 (Act 3) from the Opera

The Prophet

Timpani in G, C, D & E

G. Meyerbeer



Orchestra Studies

For Five Timpani

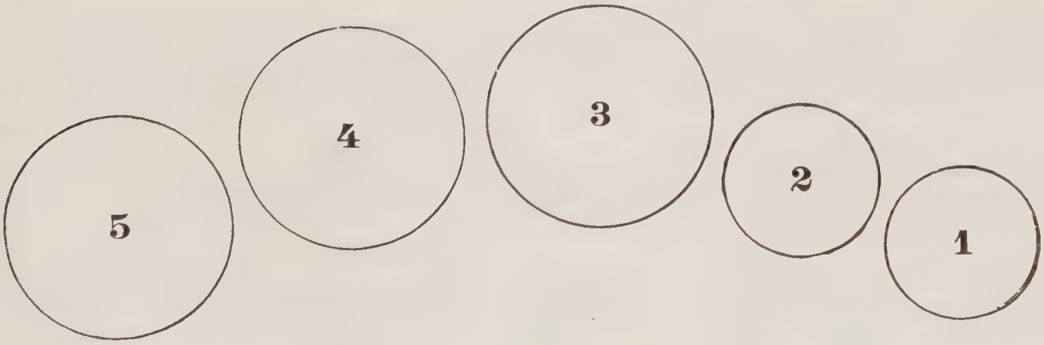
The following two quotations show Wagner's The Ride of the Valkyries *(Walkürenritt)*, first as it appears in the opera (Die Walküre), and second, as it appears in the concert arrangement. The score calls for two players, but it is usually played by one (see text page **11**). The opening measures are the same in both arrangements as far as the symbol ⊕. For this reason, these measures are not quoted in the concert arrangement.

In the score, the different tones are distributed between two players. The composition in both arrangements may be played, however, by a single performer upon five hand-tuning drums or upon a single pair of machine drums. Good pedal technic is necessary upon the machine drums in order to accomplish the quick changes.

The author has chosen the following method of designating the drums used:

1. 1st small kettle drum
2. 2nd small kettle drum
3. 1st large kettle drum
4. 2nd large kettle drum
5. 3rd large kettle drum

(Drum Nº **3** may be either large or small). The drums should be arranged in a semicircle as follows:



In the opera arrangement, the three large drums remain set and all the changes are made upon the two small drums. In the concert arrangement, all drums remain set; this arrangement may be played upon four drums. With four drums, drum Nº **4** is changed to G during the fifteen measures rest, a quick return to F♯ is made at the next rest marked N. B.

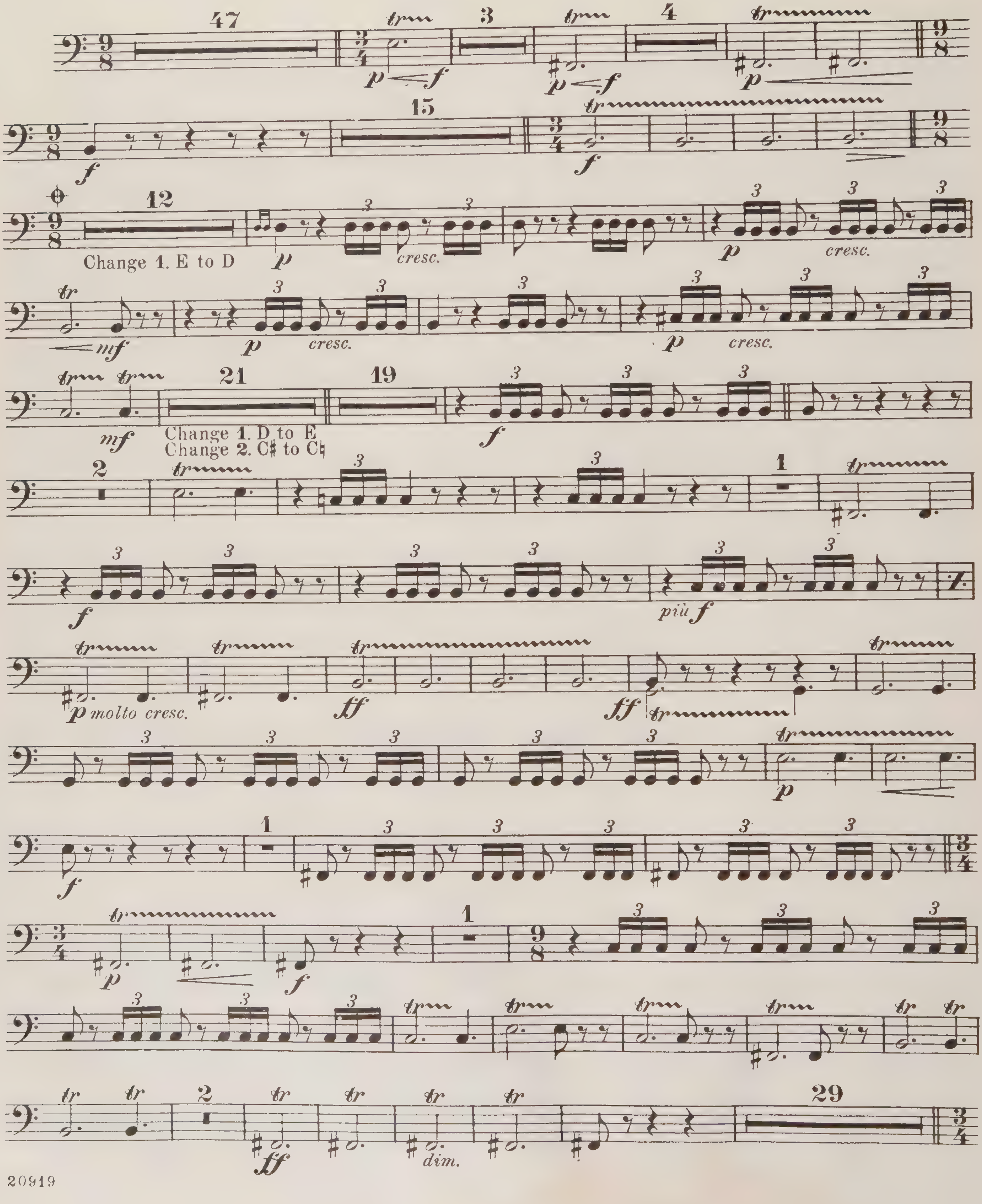
Notice that the drums are not always set to coincide with a keyboard; F♯ is given to drum Nº **4** because of its more frequent use than G. In the opera arrangement, drum Nº **2** is sometimes pitched higher than drum Nº **1**; this is to simplify the changes.

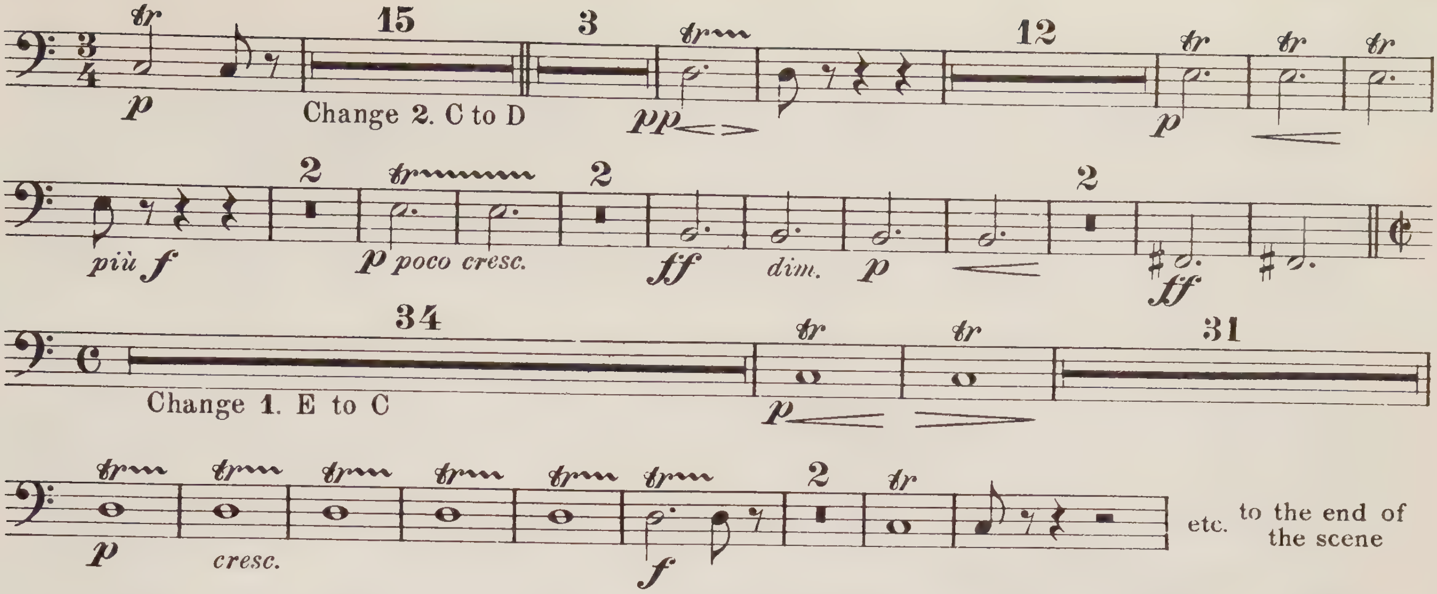
The Ride of the Valkyries

Opera Arrangement

Timpani in
1. E
2. C♯
3. B♮
4. F♯
5. G

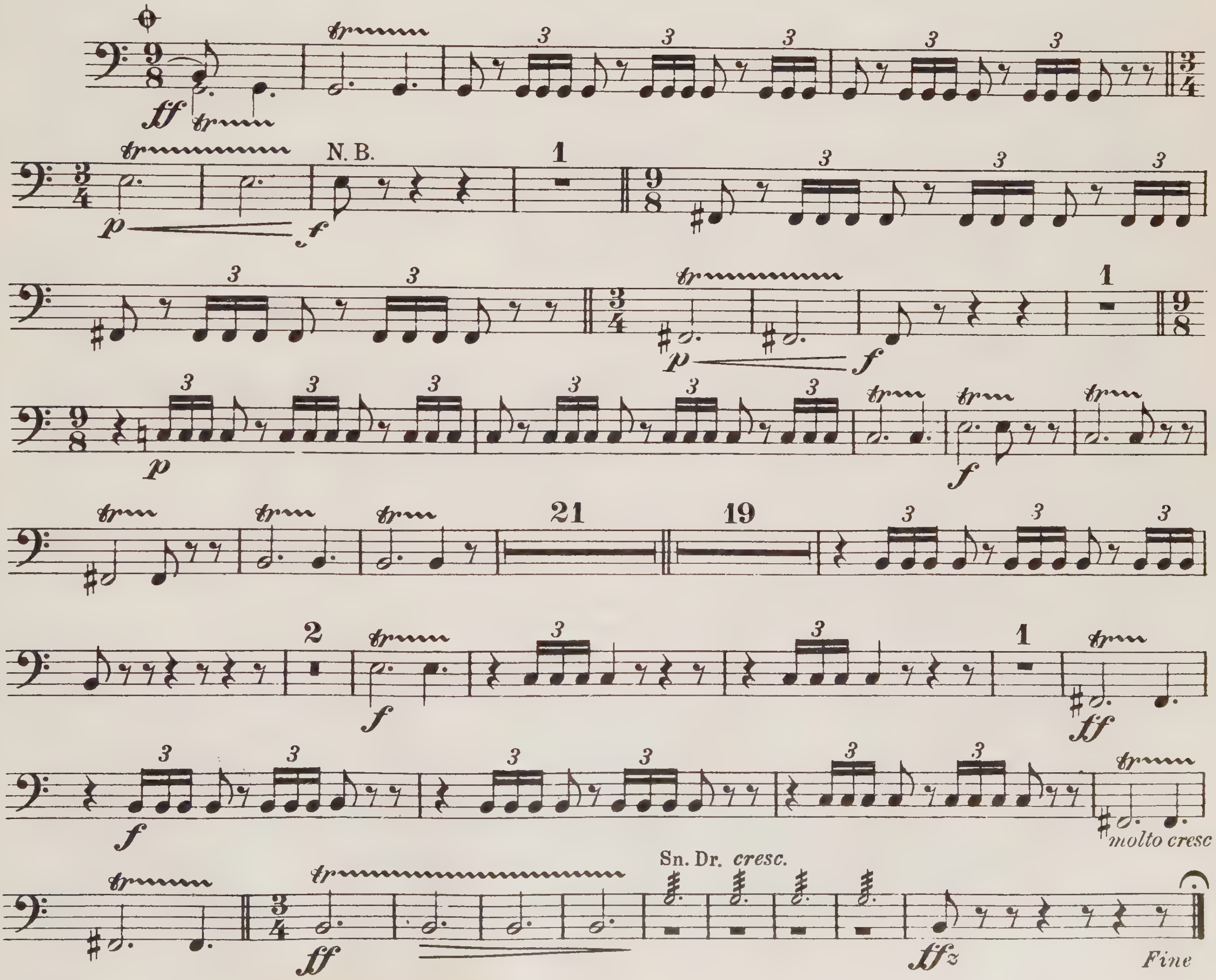
Richard Wagner



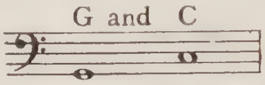


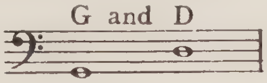
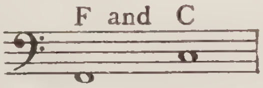
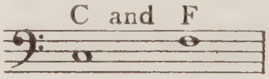
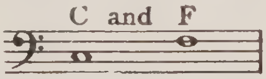
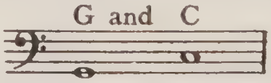
Timpani in
1. E
2. C♮
3. B♮
4. F♯
5. G

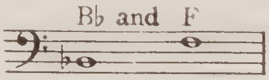
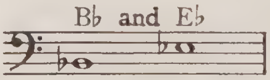
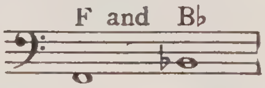
Concert Arrangement



When the Classical era gave way to the Romantic in art music, the key system in many compositions became more involved and embraced more key changes during the course of any given composition. Quick changes of key upon the hand-tuning drums are not expedient and this is especially true when the key change is not to an attendant key. Such key changes as there were in the Classical era were for the most part to an attendant key, which required the change of but one drum in the large majority of cases. Usually in such music, hand-tuning tympani offer no great handicap where the tonic and dominant are the tones of tuning.

To illustrate attendant keys, let us consider the key of C major as the main key of a composition (timpani tuned to C and G ). The two attendant major keys of C are F and G.

If the change of key is from C to G, only the smaller drum needs to be changed, i.e., C changed to D (hence: ). If the change is from C to F, only the larger drum is changed, i.e., G to F  In this latter key, however, two positions are possible upon the timpani, the one shown above and the following:  In this latter case, both drums must be changed and more time must be given in the score to make such a change upon hand-tuning drums. The composer would choose the higher tuning for the F key if he desired the greater brilliancy thereby obtained. If such a choice is made, the composer must allow more time in the part for the change than when the lower tuning is employed where pedal drums are not available. With pedal drums, however, the change of both drums may be made almost instantaneously if proceeding from a pair of tones to another higher pair. However, if the change involves a lower pair of tones (as from  to ) a trifle more time to make the change is necessary, as the pedals must be manipulated to a point of pitch below the objective pair of tones. (See text, page 13.))

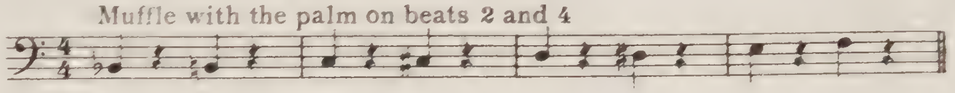
The same conditions as those shown above for the keys of C and F are to be found in the keys of B♭ and E♭. If the tuning for B♭ is as follows:  only one drum is involved in changing to the E♭ key, hence  If, however, the tuning of the B♭ key is as follows:  both drums must be changed.

While, in the Classical era, there is an occasional example of timpani tuning in other than the tonic and dominant, such procedures are rare. In the Romantic era, tonic and dominant prevail, of course, but other tunings are not rare. This, together with changes to more remote keys and more frequent key changes, make pedal drums almost indispensable today in symphony and opera orchestras.

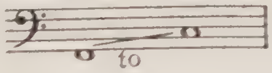
In addition to music requiring quick changes possible only upon pedal drums, some of the modern compositions are scored for "chromatic" drum effects which are, of course, only possible upon pedal drums. The term *effects* is used here in its fullest meaning, that is to say, definite chromatic enunciation in any rapid degree is not possible upon pedal timpani in the way that it is upon other orchestral instruments. Upon the pedal drum, all the intermediate tones between adjacent tones of our chromatic vals are heard and the effect is a complete glissando from starting to finishing points. A chromatic scale such as exists in our tempered scale system is possible upon the pedal drums only where the tempo is sufficiently slow to permit hand muffling after each tone. And, finally, only where the glissando is upward can a finishing point be definite; even here, a high degree of pedal technic is necessary. Upon a downward glissando, the head tension does not always coincide with the pedal position; this is due to the friction of head against kettle. This friction may be reduced by applying powder (talcum perhaps) upon the contacting circumference.

Even with pedal drums and a high degree of pedal technic, quick changes of pitch are not satisfactory in the fullest sense. All musicians have observed the string player's dilemma when he has been forced to replace a broken string with a new one—he fidgets at every opportunity, pulling upon the string and adjusting the pitch. In short, until the string is fully stretched and "seated," he is restless because of the inaccuracies in pitch characterizing an unseated string. The timpani head, by its nature, multiplies these defects when the pitch is changed and this is no different in the case of pedal timpani. In other words, the ideal timpani part has no change of pitch throughout a composition. Such an ideal part, of course, is not usual in a composition of any great length or in one having more than one movement.

Pedal technic requires special practice and includes a high degree of skill in hand muffling. (See paragraph starting at the foot of page 8.) The first set of tuning exercises (1-11) listed upon page 13 may be practiced upon the pedal drums. With the pedals, the changes may be more rapid, of course, and to practice hand muffling, each exercise should be practiced at a steady pace, muffling after each tone. Hence, Exercise 1 on page 13 (the tuning of the small drum from B♭ to F chromatically) may be practiced as follows:



This should be practiced with (1) the right stick on the notes and the left hand muffling on the rests; (2) left stick on notes, right hand muffling; (3) on counts 1 and 2 employ right hand, and on counts 3 and 4 employ left hand; reverse this. Proceed similarly with Exercise 2. In this case (the descending scale) the pedal should be released to a pitch below the objective tone, thereby approaching the objective tone from below; this exercise may require a slower tempo than that employed for the ascending passage. The larger drum should be employed in a similar manner, proceeding chromatically from

F to C  and returning.

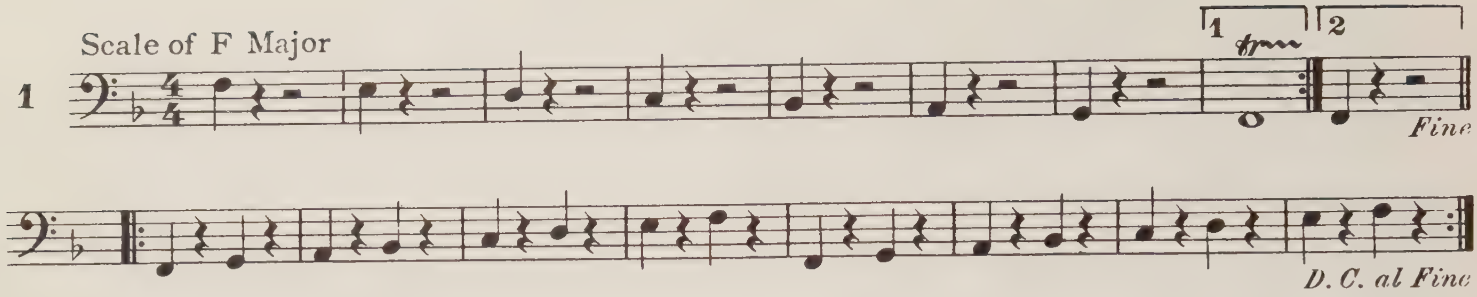
At first, the tempo in these exercises should be sufficiently slow that accuracy in pitch may be assured. (An assistant playing the exercise upon the piano in unison with the timpani is helpful at the start.) Later the speed may be increased.

The remaining exercises on page 13 (continued on page 14) are to be practiced. It will be beneficial to the student to compare the time required upon the hand-tuning drums to that required with pedals even before pedal technic proficiency has been obtained.

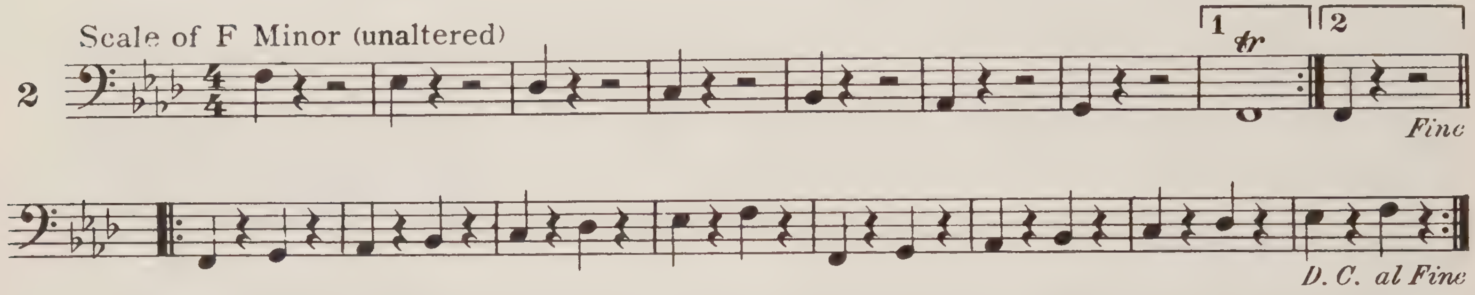
After obtaining a reasonable degree of efficiency upon the foregoing exercises, the student should practice the following:

Pedal Timpani Exercises

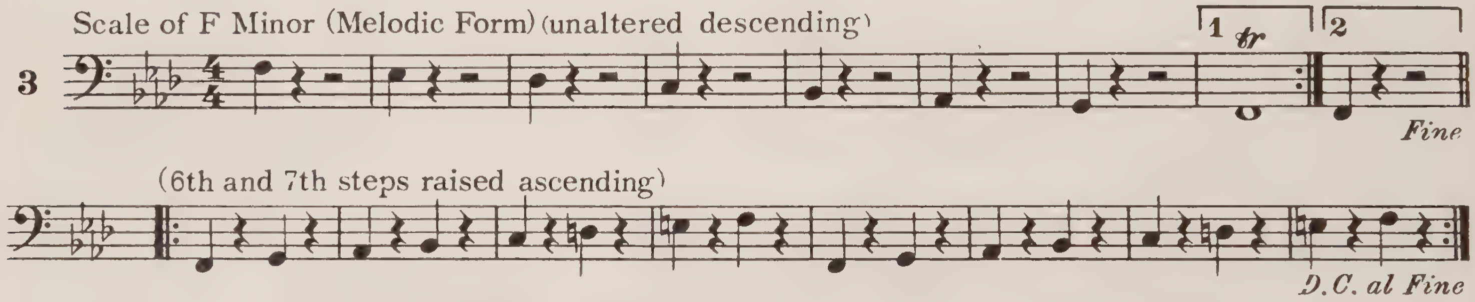
Scale of F Major



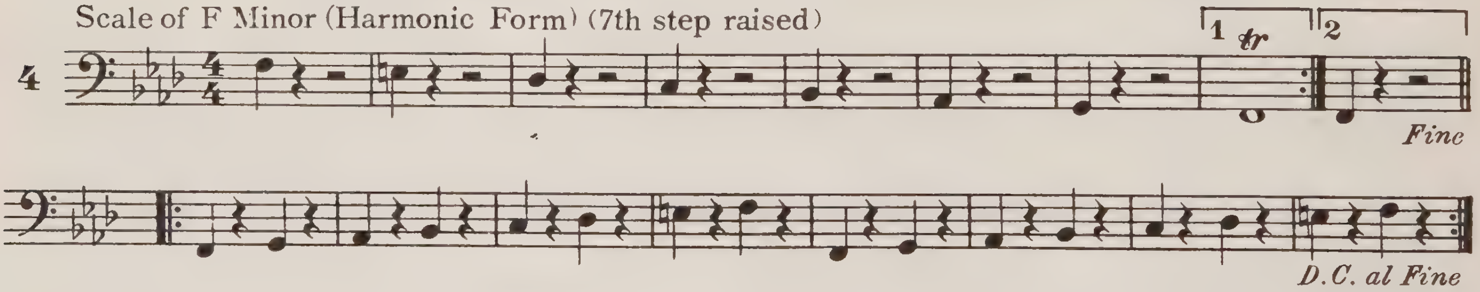
Scale of F Minor (unaltered)



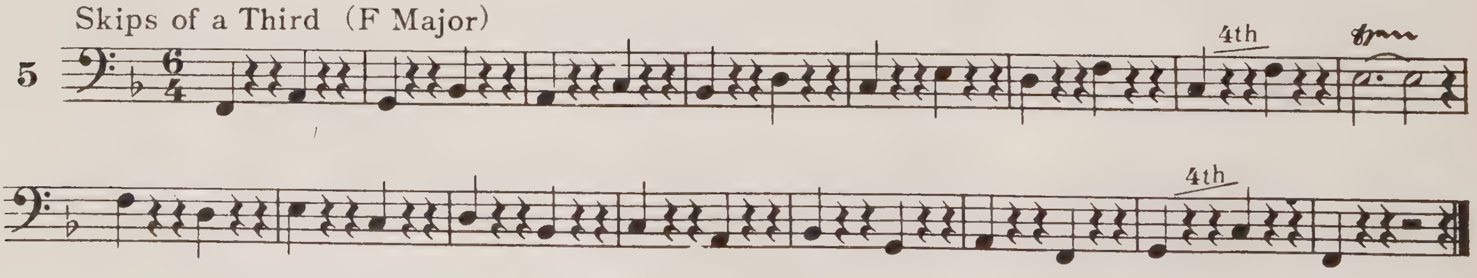
Scale of F Minor (Melodic Form) (unaltered descending)



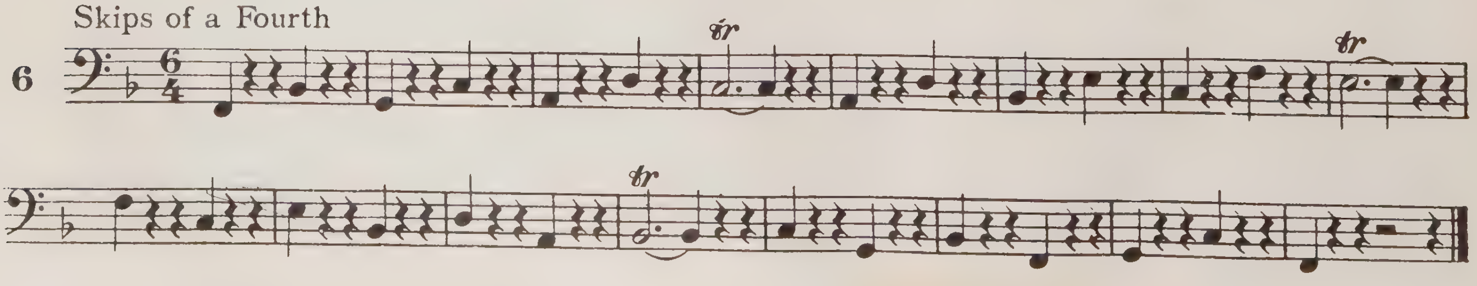
Scale of F Minor (Harmonic Form) (7th step raised)



Skips of a Third (F Major)

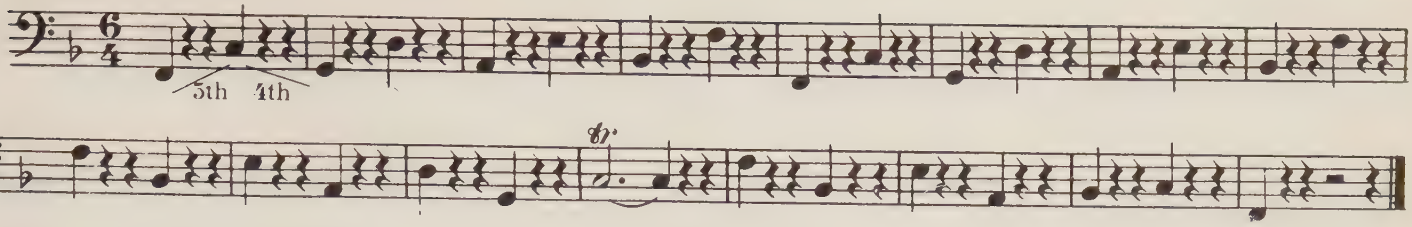


Skips of a Fourth



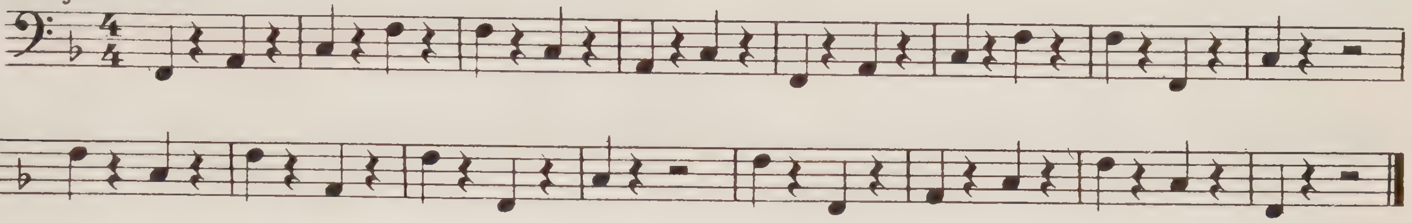
Skips of a Fifth (and Fourth)

7



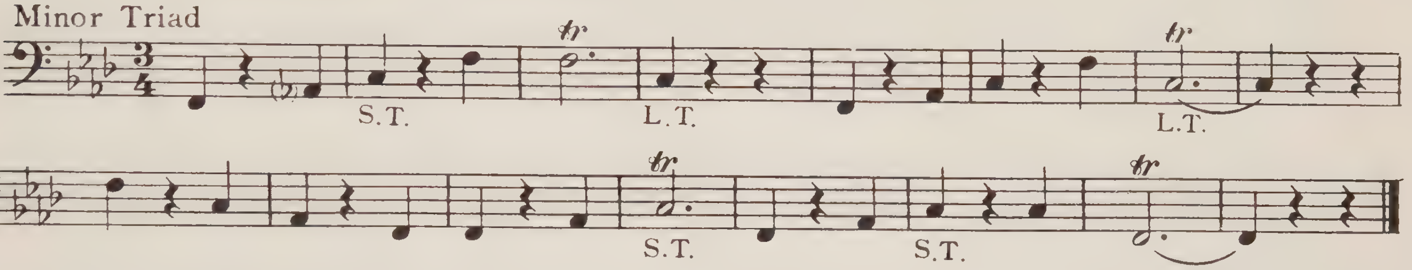
Major Triad

8



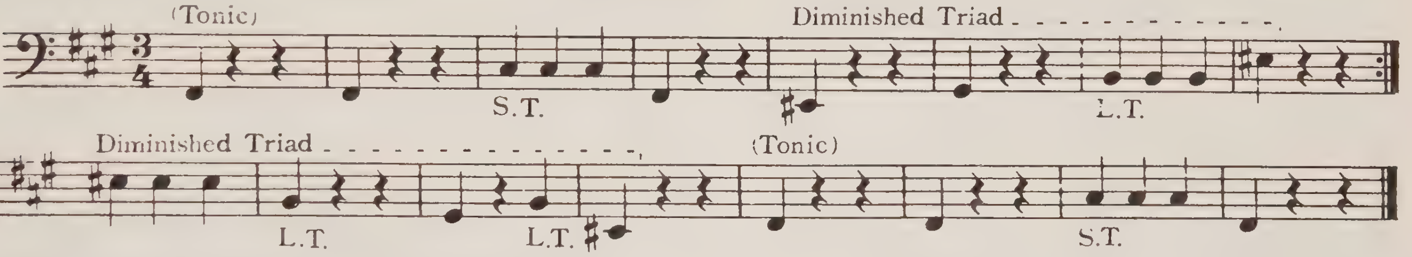
Minor Triad

9



Diminished Triad in the Key of F-sharp Minor (N.B. E♯ = F♮)

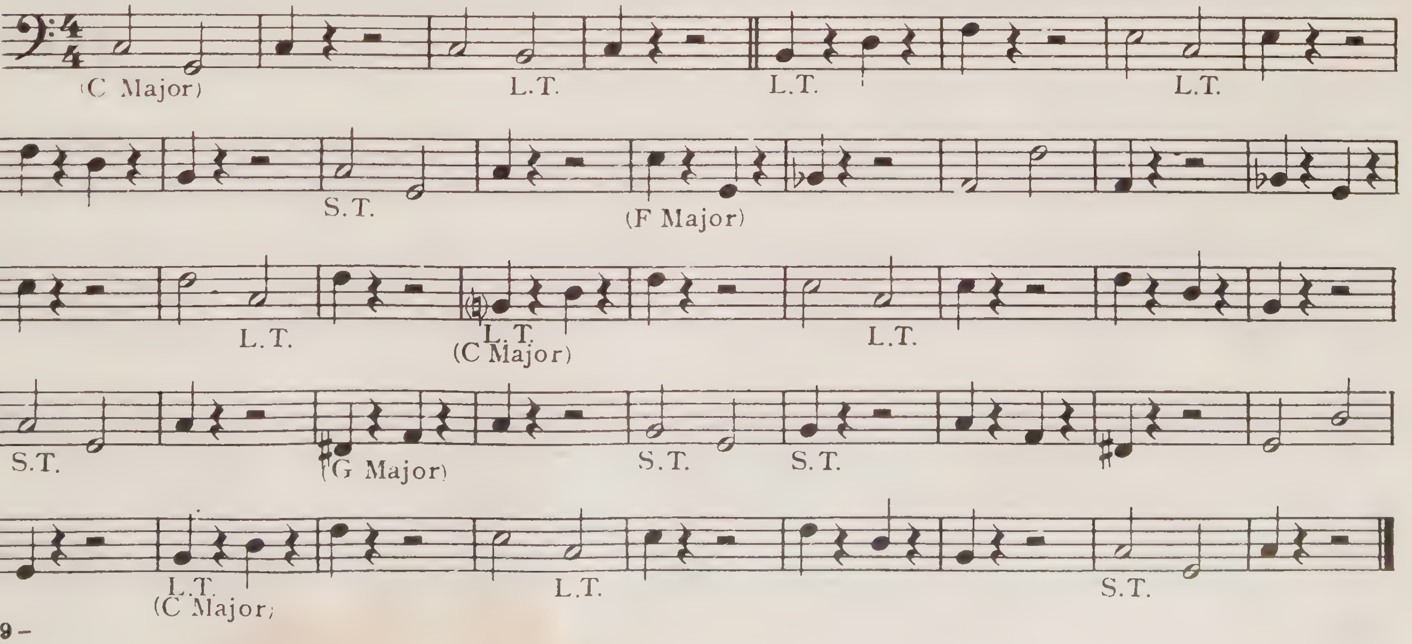
10



The preceding ten exercises have been fashioned with the tone F (or the analogous E-sharp) in mind, that the entire conventional compass of the timpani may be employed. The use of other roots for scales or chords does not permit root duplication in the octave.

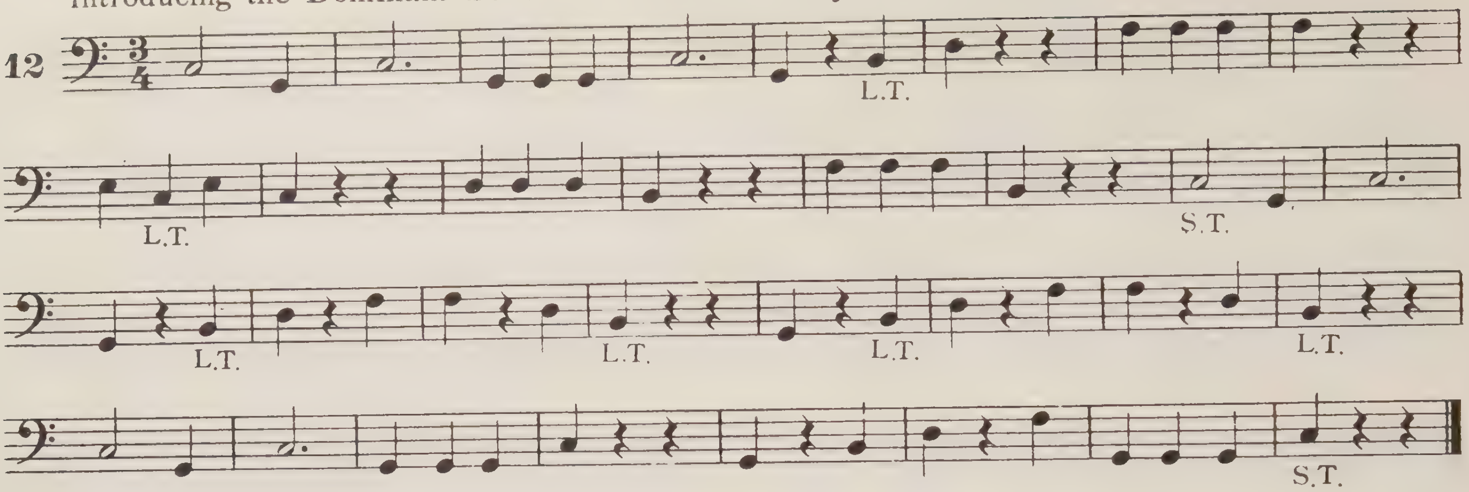
Introducing Diminished Triads in several keys with resolutions (modulatory)

11



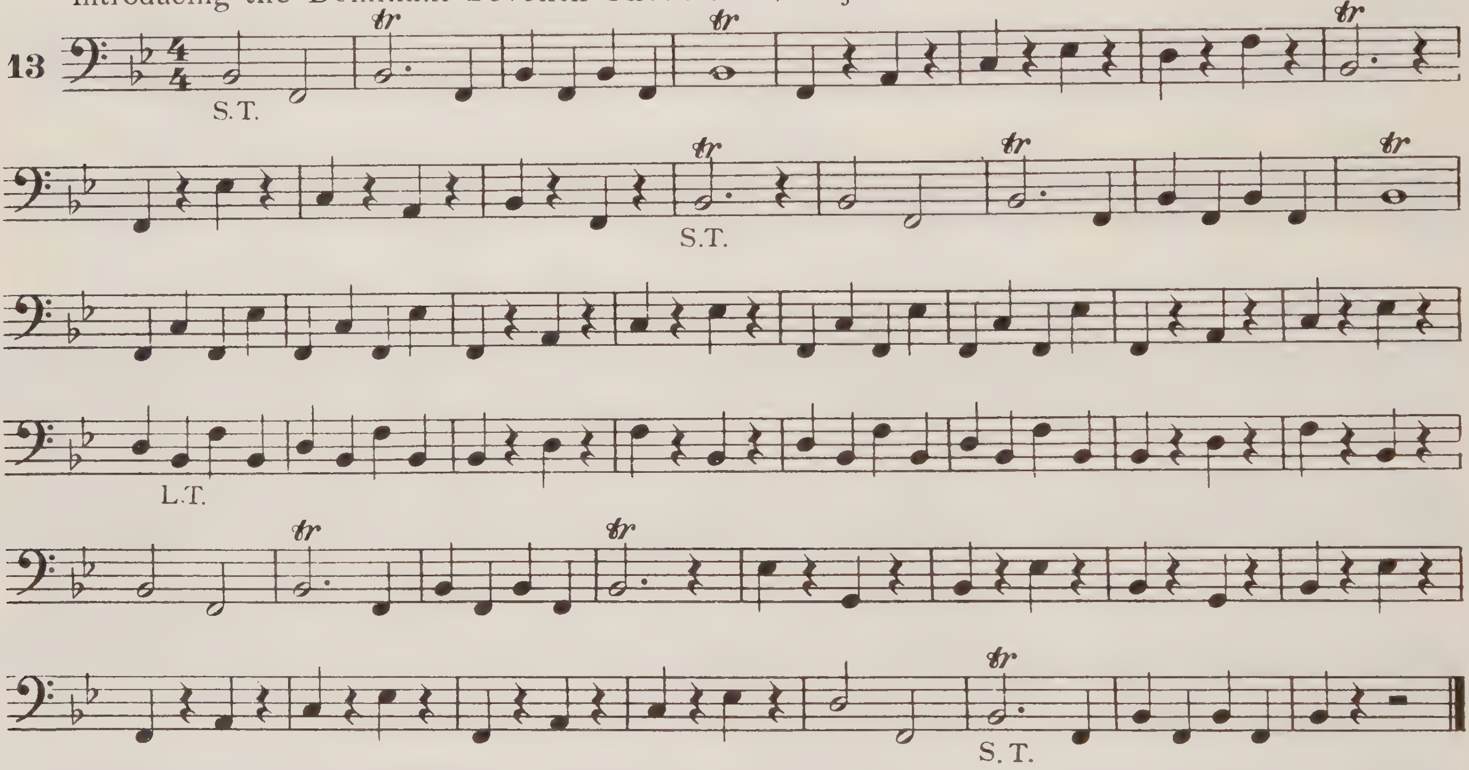
Introducing the Dominant Seventh Chord in C Major

12



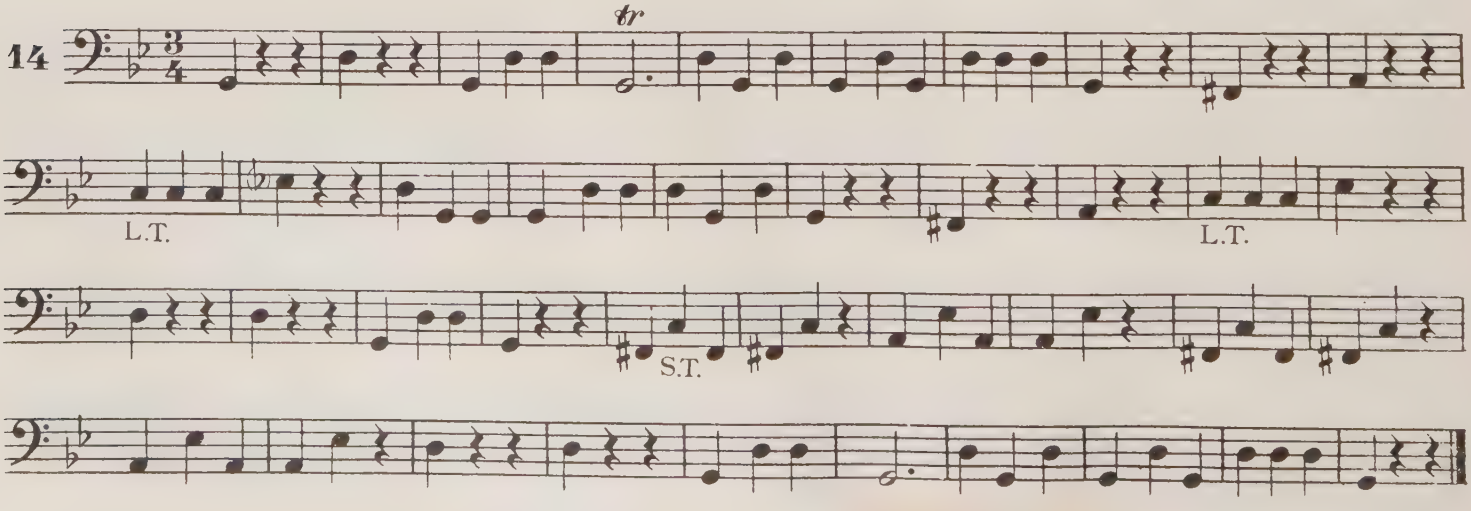
Introducing the Dominant Seventh Chord in B♭ Major

13

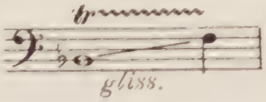


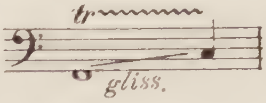
Introducing the Diminished Seventh Chord in G Minor

14

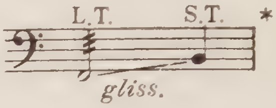


PEDAL GLISSANDOS

Another method of practice consists of a roll upon a glissando from one given point to another. As has been stated, an upward glissando may be controlled by the player after considerable practice whereas a descending glissando is not fully under his control. Nevertheless, its practice is necessary, and an approximate definiteness is more probable and more often attained after pedal technic has been accomplished. At first, the range of the glissando should include the compass of the drum (small or large as the case may be). Hence: 

and 

The tempo is arbitrary but should vary so that the passage may be adapted to the requirements of a composition. Glissandos of less range may now be practiced. Passages encompassing a perfect fourth and a major third are fairly effective. Smaller intervals than this latter are, progressively, less effective. Practice them, however, for gaining control.

Glissandos upon the large drum extending to the lower tones of the small drum are better, of course, when the terminating tone is played upon the small drum. William Russell, for example, in his Fugue for Eight Percussion Instruments* (which includes piano) introduces glissandos starting upon low F upon the large drum and terminating with B upon the small drum - 

Such passages may terminate upon B♭, B♮, C and C♯.

Downward glissandos are not as controllable as upward ones. If the glissando occurs upon the small drum and terminates upon the large, the terminating tone can be of definite pitch. Hence, downward glissandos upon the small drum ending upon the large drum may end with definiteness in pitch upon the tones C, B, B♭ or A.

In both upward and downward glissandos, composers sometimes employ the center of the head as the playing spot, which obscures definite pitch, thereby reducing cacophany.

After mastering the foregoing fourteen exercises and after practicing the various glissandos suggested above, the student should practice the Orchestral Studies employing more than two timpani (commencing on page 80). Some of these are not satisfactory because of the blurring of tones (as, for example, Wagner's *Dusk of the Gods*). Here the results will suggest glissando rather than accurate tonal enunciations.

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*This Fugue is harmonically unconventional and the term "effect" heretofore applied to the timpani glissando applies here to the complete composition. In the piano part, for example, there is a passage where all the white keys from G to B over the compass of two octaves and a major third are played with the right forearm.

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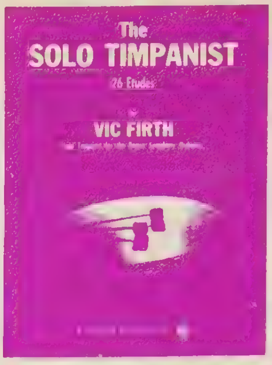

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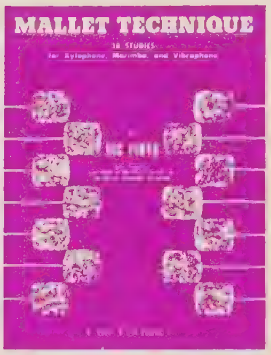

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